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the Manufacturing Confectioner

March, 1958

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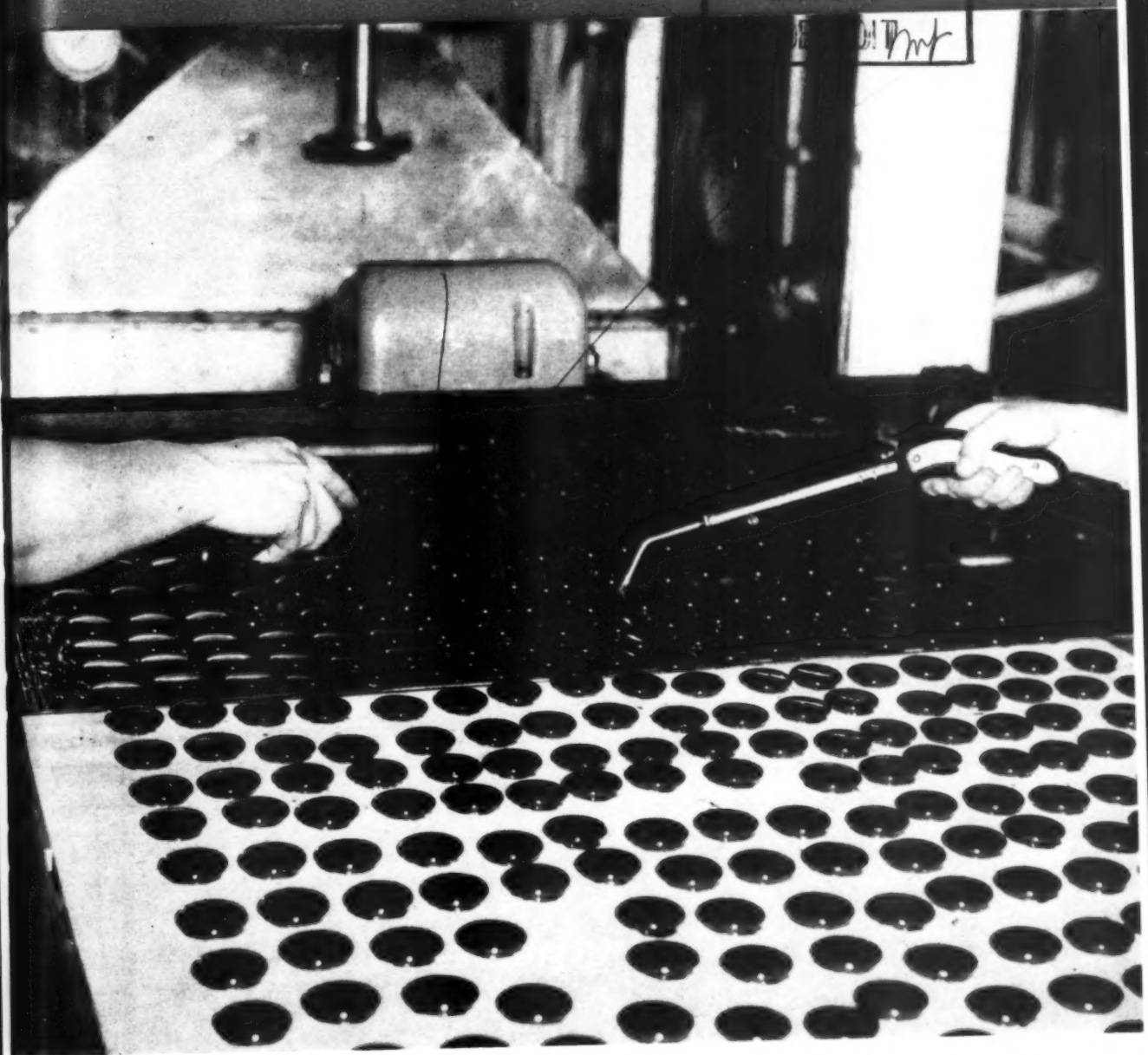
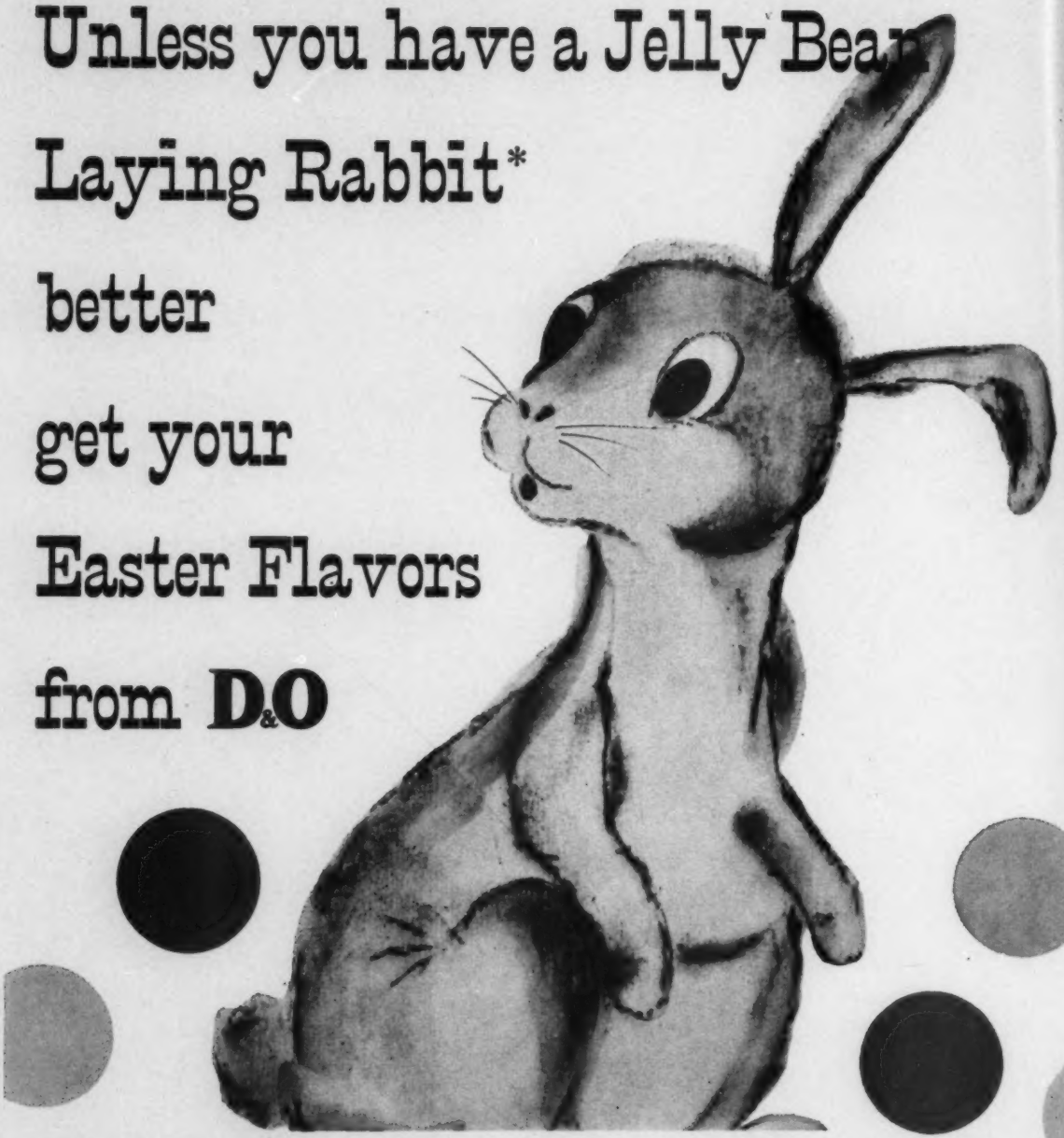


A mechanized mint line at Lyons - story on page 26

Unless you have a Jelly Bean Laying Rabbit* better get your Easter Flavors from D&O



*Far be it for us to cast doubts upon the abilities of the fabled Easter Bunny. Just in case, however, you want to be sure of a year 'round supply of fast selling jelly beans, we offer our less magical but possibly more dependable "Starch Gum" flavor group. For those six favorite jelly bean flavors, D&O suggests Dolco Strawberry, Raspberry, and Cherry flavors and Orange, Lemon and Anise oils, specifically tailored for starch gum products. A proportion of 1 to 1½ ounces is sufficient to provide delicious flavor to 100 pounds of candy, and the high concentration of the flavors and oils make for unusual economy. Trial quantities of the special "jelly bean flavors" are available on request, or through your local D&O representative. Let the D&O Flavor Department help make this your most flavorful, profitable Easter!

"Essentially for you"

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dry soluble seasonings
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OX-HEART
Ox-Heart Chocolate Cream Drops
INGREDIENTS: SUGAR, CORN SYRUP, POWDERED EGG WHITES, CHOCOLATE, CONVERTIT, ARTIFICIAL FLAVOR.
1 FULL POUND - NET WEIGHT
MADE AND GUARANTEED BY
OSWEGO CANDY COMPANY, INC., OSWEGO, NEW YORK

Sealright's NEW CANDY PACKAGE IDEA

that triggers the impulse to Buy at...

POP *

Wonderful Ox-heart Chocolates seem even more succulent . . . more enjoyable in a NEW Sealright paper candy package . . . and so it must be to thousands upon thousands of customers who are daily stimulated to Buy . . . at P.O.P. and wherever else Ox-heart Chocolates are seen in their NEW Saran window-top Sealright.

* THERE'S A PAY OFF POINT FOR YOUR CANDIES, TOO, IN A NEW SEALRIGHT "WINDOW-TOP" CANDY PACKAGING IDEA . . . AT P.O.P. AND EVERYWHERE.

We use SEALRIGHT SANITARY SERVICE for Your Protection

Sealright

Sealright-Oswego Falls Corporation, Fulton, N. Y.—Kansas City, Kansas—Sealright Pacific Ltd., Los Angeles, California—Canadian Sealright Co., Ltd., Peterborough, Ontario, Canada.

SEALRIGHT CO., INC., FULTON, NEW YORK MC-358

Send me samples of your new "Candy Packaging Ideas with Saran Window-Top Covers."

MY NAME IS _____ TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

If you want
AUTOMATIC and CONTINUOUS PRE-COOKING
. . . say

This modern machine meters, dissolves, and precooks automatically and continuously. Easy to operate — sugar and water are measured *automatically* in the proper proportions according to your own formula — and the sugar syrup is *continuously* dissolved and cooked without the use of mechanical agitation. For users of liquid sugar, we supply our Hansella Automatic Metering and Continuous Precooking Machine, Type 144A.

HANSELLA AUTOMATIC METERING and CONTINUOUS PRECOOKING MACHINE Model 126

SPECIAL GEAR PUMP Model 142A

This dissolver can also be equipped with a gear pump Model 142A to add a third ingredient such as honey, malt, or neutralized scrap in the desired proportion.

Hansella

HANSELLA MACHINERY CORPORATION
GRAND AND RUBY AVENUES, PALISADES PARK, NEW JERSEY
WHITNEY 3-4700 • CABLES COHANSELLA

Record candy sales in '57 up 5%

Preliminary estimates show that candy sales in 1957 were 5% above 1956. A very good year for candy was capped by a 10% increase in December from the same month the year before.

While all types of candy shared in the increase, the greatest gains were in the categories of packages candy selling at under 50c per pound, and for 5c and 10c specialties, which increased 8% and 7% respectively. The category that gained the least was packaged selling for 50c to $1 per pound. All other types of candy increased 5%.

Sales by manufacturer-wholesalers represented about 90% of the dollar increase for the year. Their increase was 6%. Manufacturer-retailers' remained approximately the same as the year before, while chocolate manufactruers increased their sales 3%.

Murphy to sales head, Farley

Harold B. Murphy, formerly with Bunte Brothers Chase Candy Company, has been named sales manager of Farley Manufacturing Company with responsibility for all administrative sales matters.

Loft introduces "jelly donut"

Loft Candies has introduced a new item in their shops called "jelly donut". It is shaped like a donut, and is about the same size.

It is a two layer piece, obviously double deposited in the same mold. The bottom layer is marshmallow and the top jelly, with about equal weights of each. It is available in either milk or dark coatings. Eight pieces are in a nine ounce box that sells for 69c.

Retailers award to Chas. Welch

Charles H. Welch, Jr., executive vice president of Fred Saunders, Inc., of Detroit, has received the Philadelphia National Candy Award. Mr. Welch has been in the candy business for 41 years, and for most of that period has been very active in industry affairs through the Associated Retail Confectioners Association. At present he is the only individual holding the title of member emeritus of the executive committee of the ARC.

This award is given each year to any individual who's efforts on behalf of retail confectioners has been noteworthy, and who has contributed substantially to the welfare of this industry.

Bunte goes direct in S.E.

Bunte-Chase has announced several changes in its sales representation in the Southeast part of the country. These changes are transferring the firm's business in that area from brokers to direct company men. Oscar Widmer, ten years with Bunte, has been appointed district sales manager for the seven southeastern states with headquarters in Nashville. In order to serve this area with prompt deliveries, the firm's full line of bulk, bags and packages is now stocked in Atlanta.

James becomes Chesterton

James Candy Company, a Chicago manufacturer of filled hard candies, founded last year, has changed its name to Chesterton Candy Company. The reason for this change was given as the similarity between the former name and that of another candy company.

AACT supports NCA research

The American Association of Candy Technologists is supporting the research activities of the National Confectioners Association to the amount of $1,000 this year. Otto Windt, president of the AACT is shown above presenting the check to Victor Gies, chairman of the board of the NCA.

The research work under this program is done at the Southern Regional Research Laboratories of the Department of Agriculture at New Orleans.

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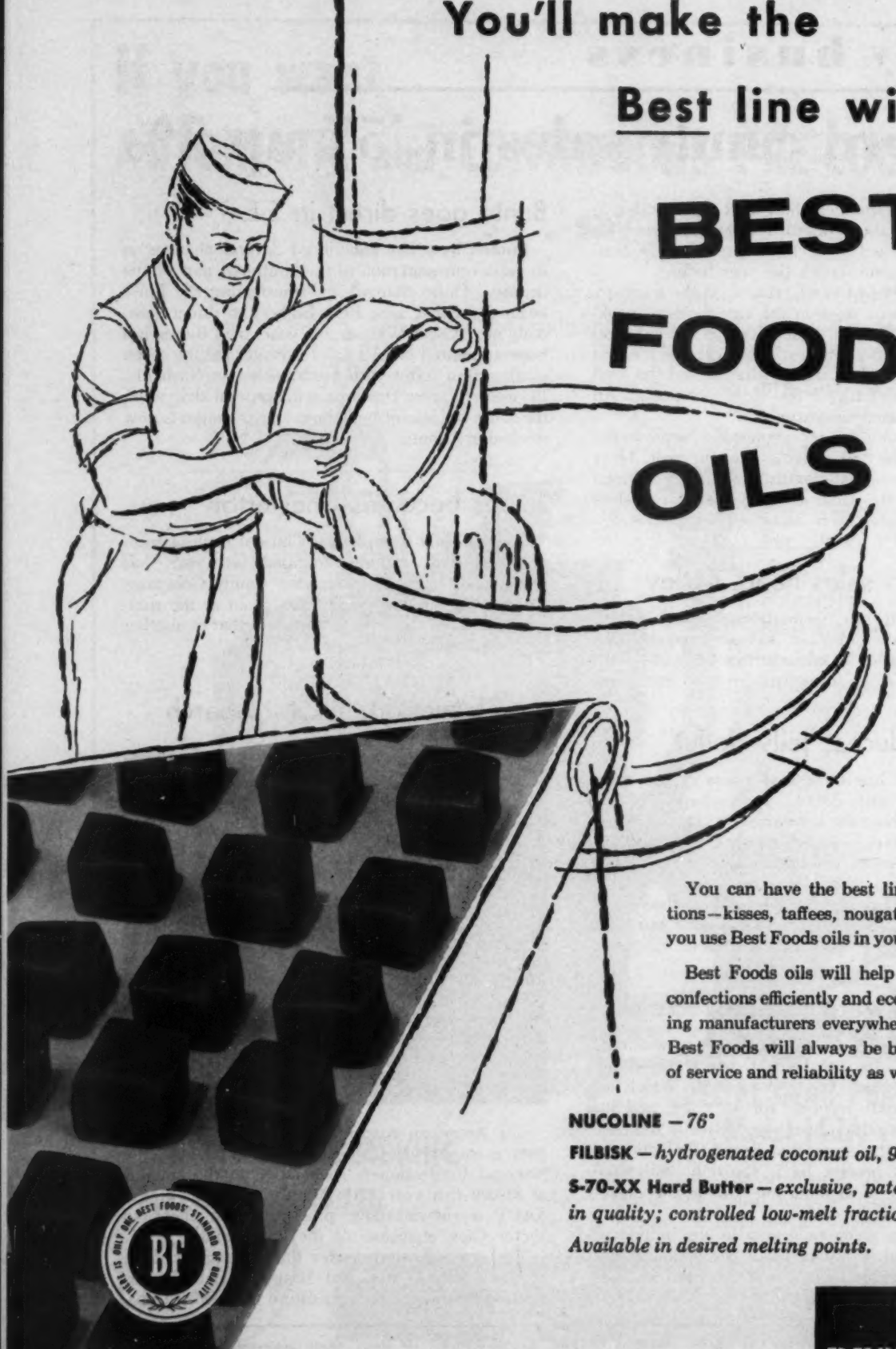
You'll make the Best line with BEST FOODS OILS



You can have the best line in chewy confe tions—kisses, taffees, nougats and others—wh you use Best Foods oils in your candy productio

Best Foods oils will help you produce bett confections efficiently and economically—as lea ing manufacturers everywhere will testify. An Best Foods will always be best for you in ter of service and reliability as well as quality.

NUCOLINE — *76°*

FILBISK — *hydrogenated coconut oil, 92°-110°*

S-70-XX Hard Butter — *exclusive, patented and uniform in quality; controlled low-melt fractions.*

Available in desired melting points.

YOU DO BETTER WITH BEST FOODS

THE BEST FOODS INC

AACT in S. E. prospers

The new Southeastern section of the American Association of Candy Technologists has shown steady growth under the leadership of chairman Lloyd Latten, production manager of McAfee Candy Company. The active membership is 72, and practically every candy manufacturer in that part of the country is represented. Meetings are held the fourth Friday of each month in Atlanta.

IIT food merchandising course

A course in food merchandising has been announced by Illinois Institute of Technology. The course is designed to provide either a full four year course or special graduate courses to meet individual needs. Curriculum plans are being prepared by Professor Milton E. Parker, chairman of IIT's food engineering department, and Pearce Davis of the school's business and economics department.

Ferrara celebrates fifty years as pan work specialist

Fifty years of pan work

Ferrara Candy Company celebrates its fiftieth anniversary this year and for the entire period has been a specialist in pan work. Like most of the present large wholesale manufacturing plants, Ferrara was started in a retail shop by Salvatore Ferrara, who is still president, making fancy pastries and candy, mostly jordan almonds, torrone and some hard candy. This shop, at 772 W. Taylor Street, is still in operation and in the Ferrara family.

In 1918 the candy business outgrew the shop and was moved to its present location. However, it could only fill a small part of the building, and all the first floor and most of the second, was rented out. The partners in this larger candy business were Mr. Ferrara, Sal Buffardi, James Pagano and Nello Pagano. The capital was $4,500 and the production space, 1,500 square feet.

A price list of 1922 shows twenty different panned items, of which nine are varieties of panned almonds. Other items are cordials, Grapeolas (Confetti a Frutta), Citron Pickles (Cannellini Picci) Lozenges and Burnt Peanuts.

Prices in 1922, for candy packed in 300 pound barrels, ran from Smooth Almonds (Confetti a Mandorle) at 17c, to Jordan Almonds at 41c.

Ferrara is today probably the biggest pan work specialist in the country with production space covering 23,000 square feet. The present partners are the founder Sal Ferrara, Nello Ferrara, Louis Buffardi, Louis Pagano and Mary Pagano. Dr. D. T. Perrella, sales manager, has been with the firm for thirty six years.

300,000,000 score for RCSI

More than 300 million candy impressions were made on the American public as a result of the first five months of the Retail Candy Store Institute's national publicity program. The institute, formed by contributing members of the Associated Retail Confectioners Association, and working through Theodore R. Sills Company, has been particularly successful with candy placements and situations woven into 9 network television shows and three network radio shows.

All forms of mass communications media have been used during the period, both on the local and national scenes. One major effort has been through the food editors of newspapers and magazines, with themes developed around candy as a tasty and nutritious dessert item, as an addition to school lunches, and for snacks.

Stevens sales, volume up

Stevens Candy Kitchens has reported fourth quarter sales of 1957 up 35% from the year before. with profits up 20%. The profit lag was blamed on the rise in cocoa bean prices. January sales are reported as 55% over the same month last year, and this years sales are expected to be about 50% above last year.

$20 million is candy bill for TV

An analysis of television advertising by candy companies compiled by Television Age Magazine, estimates a total expenditure of slightly over $20 million for 1957. This is broken down into $10 million for national spot, $6.5 million for network, and about $4 million in locality. Sixteen short reports of individual companies tells of their use of television in various ways to promote their candies.

Mikrovaerk office in Canada

Mikrovaerk (Canada) Ltd. has been formed, as agent for the parent Danish firm, in Toronto. Besides office facilities, this new building will stock spare parts for the complete line of Mikrovaerk equipment and ensure quick delivery to all machinery users in the Americas. Karl Magnussen, representative in America for some years, is the manager of this office.

Fine Candy...Making Itself at Home in Fine Surroundings

Above you see a typical high-quality candy finding a warm welcome in an atmosphere of gracious living. The J. L. Clark lithographed metal container was *designed to harmonize* with surroundings of taste and quality.

This container was also designed as a dispenser that would protect the product, preserve product freshness, and be convenient to use. As a result, it does much to keep customers satisfied and to make new friends for the candy it contains.

J. L. Clark containers are planned for the specific type of people who buy a given product. They are designed by container specialists and have helped chalk up some noteworthy sales records. A Clark container can do the same for *you*. Get in touch with J. L. Clark today.

Write for a Sample Container . . . now, while you're thinking of it. Our representative will gladly show you how you can increase sales with lithographed metal containers from Clark. J. L. Clark Manufacturing Co., Rockford, Ill.; Liberty Division Plant and Sales, Lancaster, Pa.; New York Sales Office, Chrysler Bldg., New York 17.

Lithographed Metal Containers

J. L. CLARK

Your candy has better appearance... *faster sales* with the finest pecans...

...Fleischmann's Fancy Pecans

Pecans accent the full, rich taste of your candy products. But you need pecans that stay fresh longer to give your candies longer shelf-life . . . assure taste satisfaction whenever they are purchased. And when it comes to fine, fresh pecans . . .

Here's why more and more manufacturing confectioners are choosing Fleischmann's Fancy Pecans:

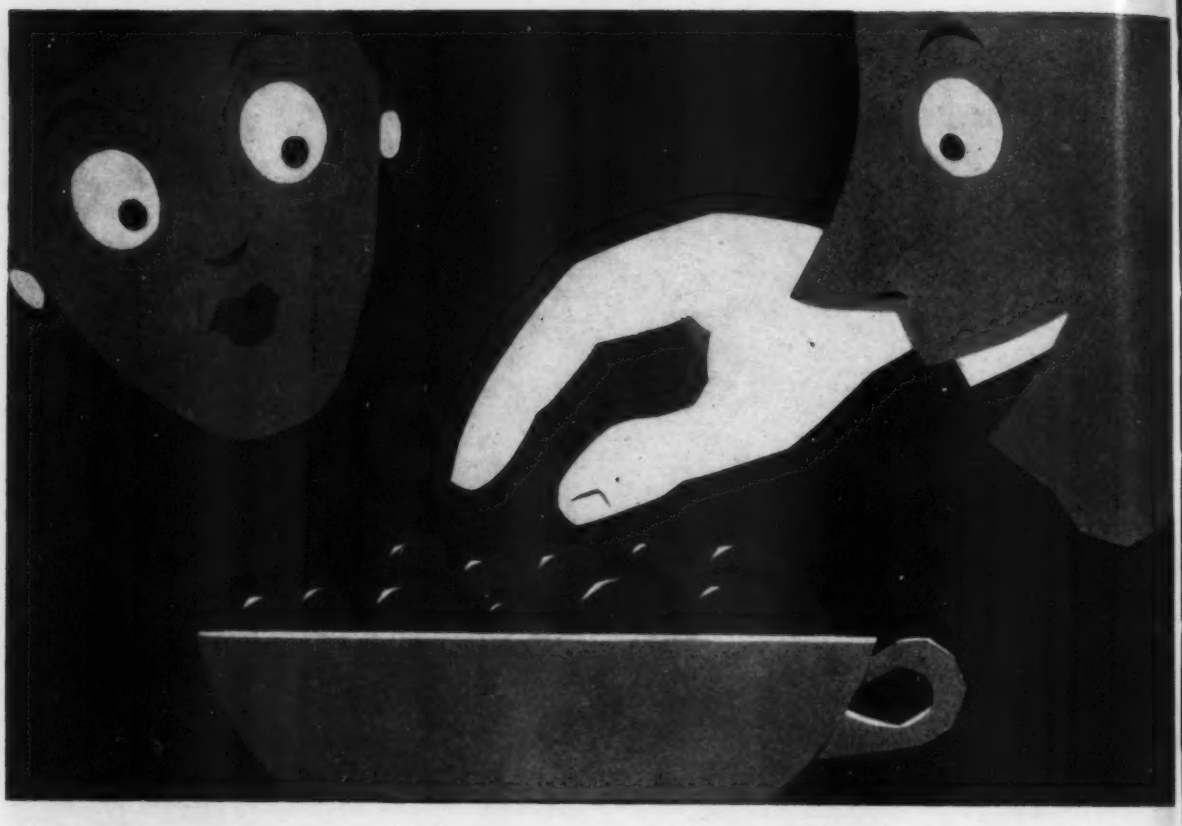
Fleischmann's Fancy Pecans are bright-colored, full-meated, and firm. You can be sure they will be uniform in size, whichever grade you select. Our expert buyers choose only the "pick" of the pecan crop. These "seedling" pecans have a higher oil content for long-lasting flavor. And they stay fresh longer because they're fresher when you get them.

Remember! Your candies will taste even better . . . and sell faster . . . when you use the finest pecans – Fleischmann's Fancy Pecans. Call your Fleischmann man today. He'll help you select the grades you need.

Ask your Fleischmann man about:
Frozen Egg Whites, Coffee for Flavoring, and other products.

Fleischmann's *Fancy* Pecans

STANDARD BRANDS INCORPORATED



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Your product's life may hinge upon its choice...
So...if you manufacture food, meat, dessert,
confectionery or beverage products,
be sure to choose *the best!*
Be doubly sure with FRITZSCHE...
A FIRST NAME IN FLAVORS SINCE 1871.

FRITZSCHE *Established* 1871
Brothers, Inc.
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BRANCH OFFICES and *STOCKS: *Atlanta, Georgia, Boston, Massachusetts, *Chicago, Illinois, Cincinnati, Ohio, *Los Angeles, California, Philadelphia, Pennsylvania, San Francisco, California, St. Louis, Missouri, Montreal and *Toronto, Canada and *Mexico, D. F. FACTORY: Clifton, N. J.

the Manufacturing Confectioner

with International Confectioner

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Edited and Published in Chicago

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The Sweet and The Sour

We have heard for many long years that the candy industry has not been spending enough for advertising, and that its proportion of sales dollars for advertising was well below comparable industries. The following information on advertising expenditures by industries are from internal revenue figures, and candy actually shows up pretty well.

Meat	.54%
Liquors	1.94%
Dairy	1.95%
Bakery	2.35%
Confectionery	2.90%
Cereals	4.72%
Medicines	8.54%

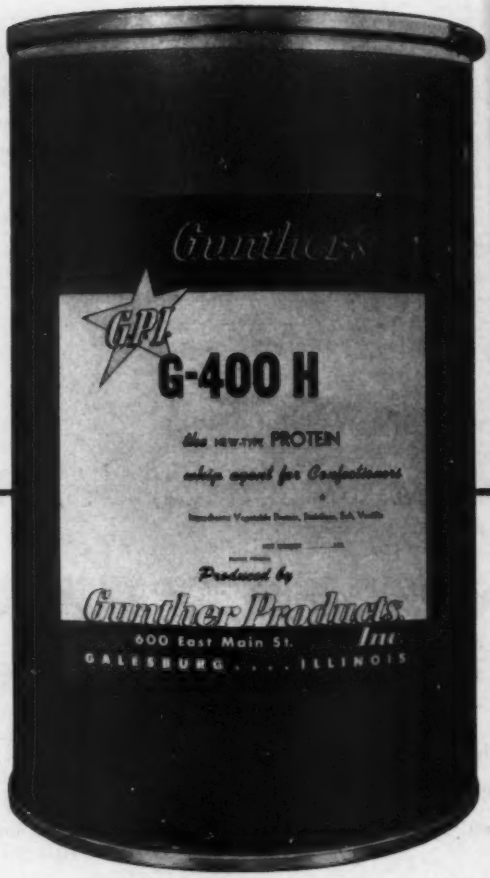
A development in genetic research on corn promises greatly improved thin boiling starches for candymaking. The work has been in the direction of finding or developing a hybrid corn that produces a much higher proportion of amylose starch than the present 25% in standard commercial varities. It is the amylose that provides the jelling in starch gums. The remaining 75% of amylopectin just goes along "for the ride", and contributes little or nothing to the function of jelling.

The search for high-amylose corn has been going on for many years, and just this year some very promising strains are available in small quantity for testing by corn refiners. Commercial production is still three or four years away, but the day might soon come when the amount of thin boiling starch in a gum batch may be cut to one third or less of the present usual proportions.

Major candy manufacturers assure uniform top quality—on every batch—with *G-400 WHIPPING PROTEIN...*

Every pound of G.P.I. G-400 Whipping Protein gives the *same* fine results—because every pound is the *same* in quality, purity, consistency, whipping characteristics. That's the prime reason why the biggest plants, as well as many smaller candy makers, have established G.P.I. G-400 as their regular standard whipping agent. And the relatively low cost of G.P.I. G-400—substantially less than that of egg albumen—is an important extra benefit.

You can have this same assurance of maximum product uniformity at minimum cost without processing complications of any kind. Why be satisfied with less desirable methods when G.P.I. G-400 offers you so many benefits?



CHECK THESE POSITIVE ADVANTAGES:

1) **Lower cost—*much* less than egg albumen**
2) **Maximum whip volume—increased stability**
3) **Greatly improved "stand-up" characteristics**
4) **Whips faster—retains chocolate and cocoa color in fudge and chocolate centers—high amino acid content**
5) **2 specific types to give optimum results in either horizontal or vertical beaters . .**
   G-400H for Horizontal Beaters
   G-400V for Vertical Beaters

If you have not yet discovered for yourself how easily you can get assured uniformity of product, *at lower whipping costs,* with G.P.I. G-400, ask us for further details at once.

★ **WRITE TODAY FOR FREE WORKING SAMPLE**

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Nestlé's coatings can never be less than the best. A rigid system of laboratory and production controls guards the unique preference Nestlé's has enjoyed with candy makers over the years.

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THE NESTLÉ COMPANY, INC.

2 WILLIAM STREET • WHITE PLAINS, N. Y.

®Trade Mark Reg

© Merck & Co., Inc.

***SORBITOL** **the ideal humectant—**
A product of MERCK & CO., Inc., Rahway, New Jersey

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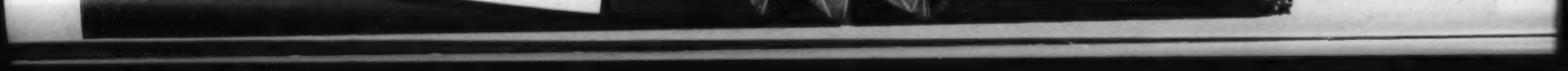
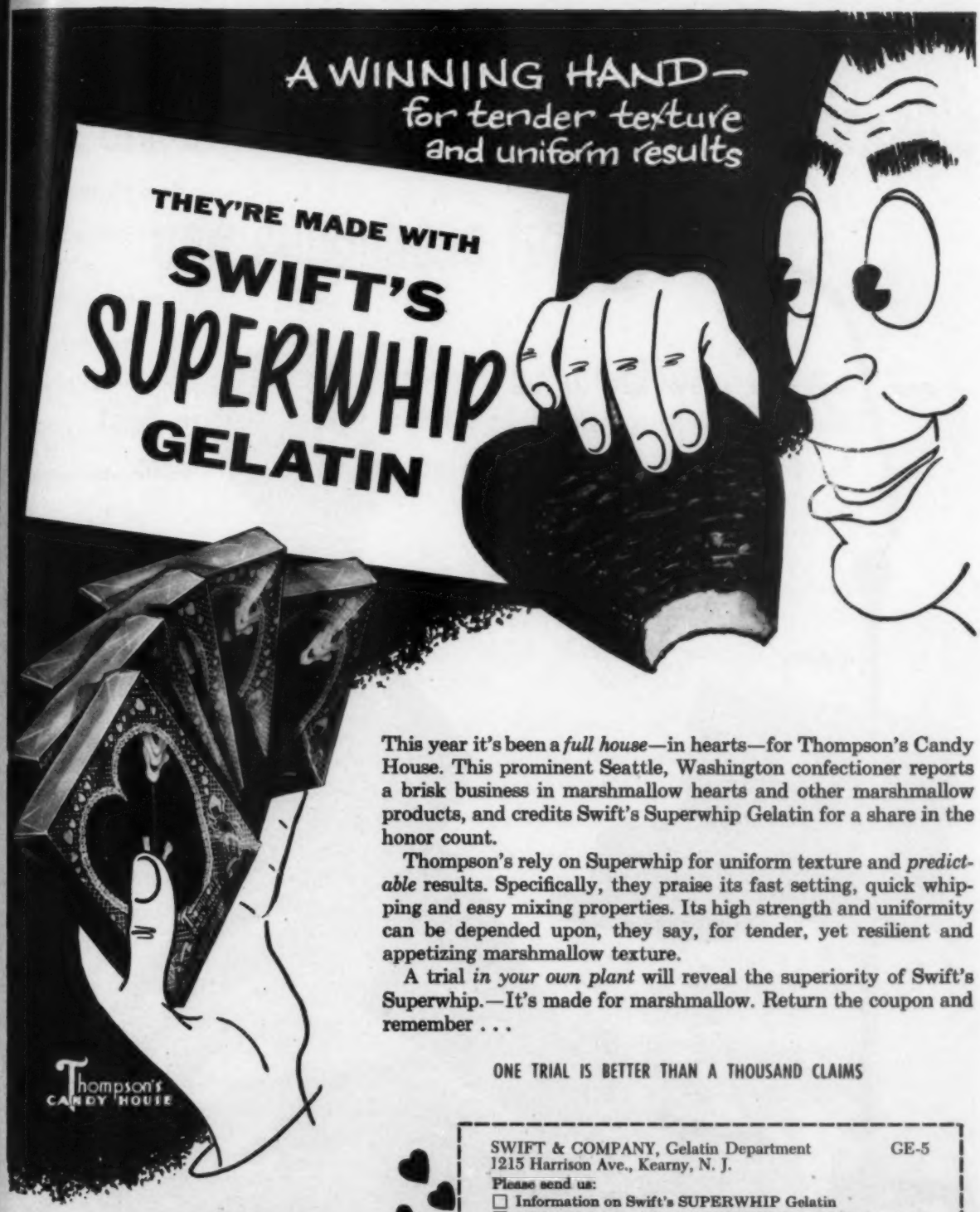




This year it's been a *full house*—in hearts—for Thompson's Candy House. This prominent Seattle, Washington confectioner reports a brisk business in marshmallow hearts and other marshmallow products, and credits Swift's Superwhip Gelatin for a share in the honor count.

Thompson's rely on Superwhip for uniform texture and *predictable* results. Specifically, they praise its fast setting, quick whipping and easy mixing properties. Its high strength and uniformity can be depended upon, they say, for tender, yet resilient and appetizing marshmallow texture.

A trial *in your own plant* will reveal the superiority of Swift's Superwhip.—It's made for marshmallow. Return the coupon and remember . . .

ONE TRIAL IS BETTER THAN A THOUSAND CLAIMS

SWIFT & COMPANY, Gelatin Department GE-5
1215 Harrison Ave., Kearny, N. J.

Please send us:

☐ Information on Swift's SUPERWHIP Gelatin

☐ 100# trial drum of Swift's SUPERWHIP Gelatin at drum price . . . to be tested in our operations. We understand, if not fully satisfactory, it may be returned for credit at your expense.

FIRM NAME.....

ADDRESS.....

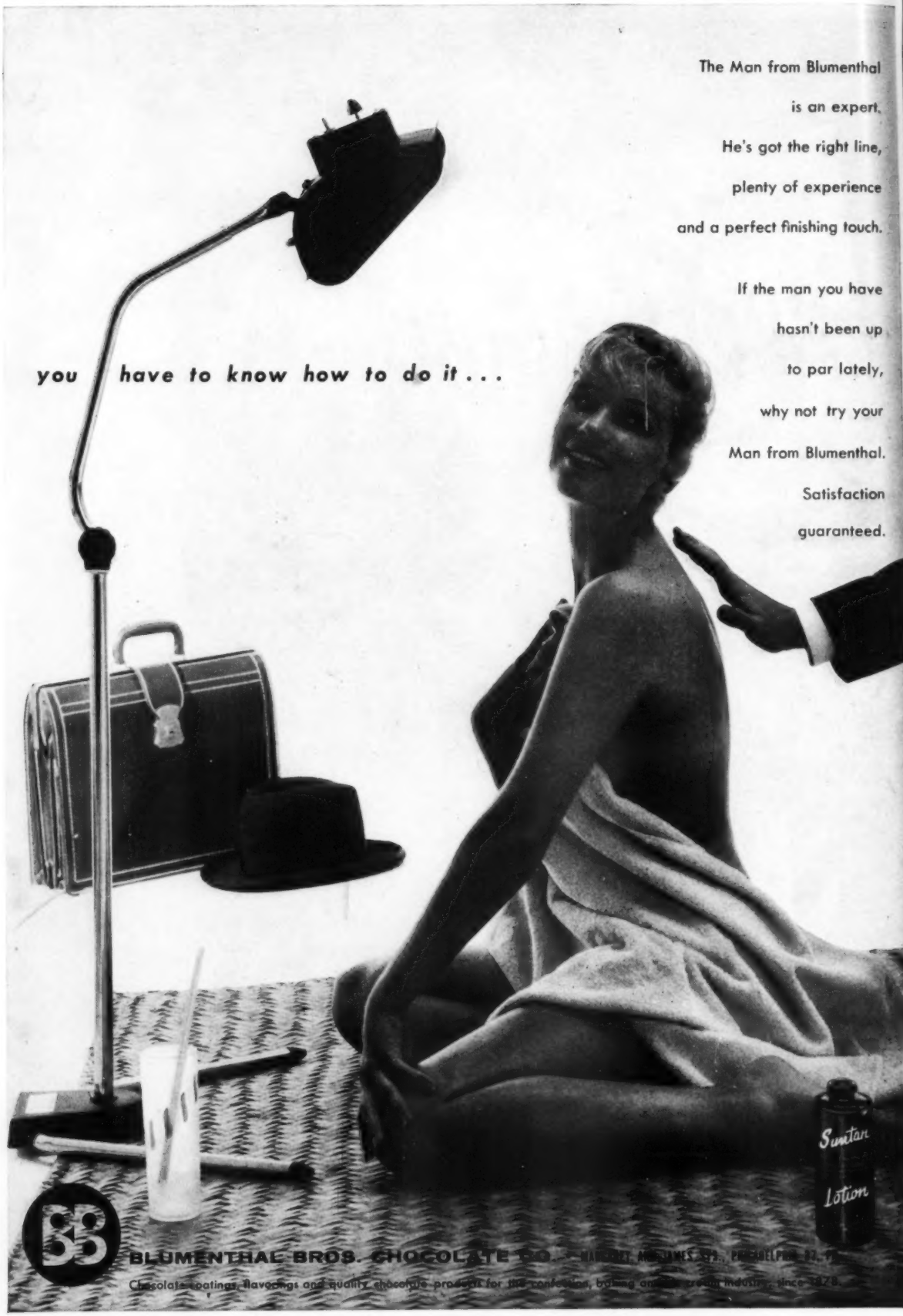
CITY..... STATE.....

YOUR NAME.....

This offer expires May 8, 1958

Swift

To Serve Your Industry Better


The Man from Blumenthal
is an expert.
He's got the right line,
plenty of experience
and a perfect finishing touch.
If the man you have
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Du Pont announces 300 K-202...a remarkable new cellophane for candy bags

Designed specifically for top performance on high-speed make-and-fill machines, new 300 K-202 offers economical yield of 19,500 square inches!

The ideal packaging film for candy bags is here! As the newest in Du Pont's line of "K" cellophanes, 300 K-202 provides all the recognized sales-building advantages of "K" cellophane in a high-yield film that speeds through the fastest equipment.

The lustrous, sparkling surface . . . the complete transparency without a hint of cloudiness . . . the superior moisture protection and flavor retention of Du Pont "K" cellophane have won wide acceptance among packagers. Add to these features a 19,500-sq.-in. yield plus outstanding machine performance and you have in 300 K-202 a combination that's hard to beat. What's more, in double-wall bag construction, 300 K-202 offers the maximum in durability and protection.

Your Du Pont Representative or Du Pont Authorized Converter will be glad to work with you in evaluating 300 K-202 for your operation. For additional information on this remarkable new cellophane film, mail the coupon below. E. I. du Pont de Nemours & Co. (Inc.), Film Department, Wilmington 98, Delaware.

DU PONT cellophane

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REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.)
Film Dept., Room MC3, Wilmington 98, Del.

Please send me information on remarkable, new 300 K-202 cellophane.

*Name*_____

*Firm*_____

*Address*_____

*City*_____ *State*_____

WILD CHERRY IMITATION 1535

Put this LEADER among flavors to work *selling your line.*

Tangy and refreshing . . . 1535 Wild Cherry never fails to win instant and lasting friends the first time tasted . . . almost belies the word imitation.

H. Kohnstamm's famous flavor chemists have given to 1535 Wild Cherry not only a truly distinctive delightful taste but also *real heat resistance* to hold that flavor under high cooking temperatures.

Get acquainted with 1535 Wild Cherry or other Atlas heat-resistant imitation flavors (1500 Line): Raspberry, Grape, Pineapple, Strawberry, Orange, Banana, Apple, Pear, Lemon, Lime, Peach, Rum, Rum and Butter. *Write, wire or phone a trial order today . . .*

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the Manufacturing Confectioner

March, 1958

Volume XXXVIII—Number 3

There is a difference in invert sugars

BY CLIFFORD CLAY
Consultant, Wynwood, Penna.

Can there be a difference between acid and enzyme converted invert sugars? A lot of widely scattered experience and evidence indicates that there must be, and furthermore that this difference has a distinct effect on the action of these sugars in candy batches. Though the following notes are not written as a history of invert sugar, they will cover some notable observations in order to make it easier for the reader to follow some pertinent experiences and developments on this important subject.

Invert sugar was and still is a nuisance in sugar refining. However, it was a useful tool in sugar laboratories long before it became an indispensable ingredient in various industries.

In candymaking it was made intentionally, even though unrecognized, when acid or acid salts were added to a boiling sugar batch to "kill the sugar". Often too much was produced and the result was a batch which flattened and grew sticky, or there might not be enough and the batch would grain. A puzzling result was a batch which was strongly doctored and still grained but with a smudgy grain which was not recognized as dextrose. It takes heat to produce an acid inversion.

Later the enzyme invertase, an organic catalyzer, was introduced and so called "enzyme invert" was made in cold batches. We still find candy makers trying to "doctor" hard candy batches with invertase to hurry the action. They might as well try to promote the growth of gold fish by boiling the water in their globe. "Cold batch" is accurate in comparison with acid inverting, but there is an optimum temperature which controls the speed of the action.

Both forms of invert resulting from these methods were considered the same. Either acid or the enzyme, acting as a catalyzer, promoted the hydrolysis of sucrose to invert sugar. Both types of invert were considered to be composed of equal parts of dextrose and levulose. In the case of the acid hydrolysis this still appears to be true.

For many years standard laboratory invert sugar was specified as one resulting from a standard procedure of acid hydrolysis of sucrose. Later this was changed in many laboratories and the enzyme method substituted. It may be that certain changes recently suggested for the concentration tables of sucrose and invert sugars may be due to the indiscriminate substitution of the two invert forms.

Somewhere around 1910 one of the government departments published findings of the results of the use of the two invert forms in feeding experiments. Unfortunately at that time the writer had not yet started to file such information so he cannot be specific in his references but the facts were these.

Two litters of rats were fed identical diets in which all carbohydrates were in the form of one or the other of the invert sugars. The litter fed

on the acid invert grew and prospered. That fed on an enzyme invert did neither but appeared stunted and undernourished. No reason was given. The writer began to wonder why.

In about 1912 the writer visited a New York hospital on behalf of the American Sugar Refining Co. In that hospital many of the children of the poor were being treated for Summer Dysentery. The method used was to cut all carbohydrates from the diet for 2 to 3 days or until the dysentery stopped. The diet was then enriched by adding some monosaccharide of one origin or another. A fair proportion of the children were sent home cured. The remainder had to go through the treatment again and again. Some were cured the second time but the remainder generally died. Mortality was high.

The doctors substituted invert sugar for the monosaccharide and the result was an amazing improvement in the first time cures and a drop in mortality to almost negligible percentages.

A glowing report was in progress of composition when the question was asked by what process of hydrolysis the inversion was accomplished. "Hydrochloric acid and soda neutralization." That did it. It was better to have the children die than feed them such material.

The enzyme product did no good so the entire invert project was dropped with the explanation that "the theory was wrong and impractical." While the writer sympathized with the children's parents, his main interest was in why one type worked and a supposedly identical one, made in a different way, did not. Could they be the same?

In the early thirties the writer was crossing from England to Denmark enroute to Sweden and among the passengers was a delightful gentleman with whom he became engaged in a discussion about the use of invertase in candy making.

It developed that the man was a technical director of the Swedish Government Sugar Monopoly and wanted samples of invertase. These were readily supplied. Experiments followed which resulted in proof that table syrups, in which sucrose was balanced against crystallization by invert sugar, had a very much longer life if the enzyme product was used.

Actually the life of two exactly comparable syrups changed from six or eight weeks to two or three *years* when the enzyme invert replaced the acid produced product. This may sound impossible but it is definitely true.

Sample jars of these Swedish syrups (3 types) were brought to the writers English laboratory and lay there for the better part of two years without change. After this time they were taken to the technical director of Tate & Lyle Refineries who in turn turned them over to his chief chemist for test and comparison. This is what was done.

Each lot was divided into four parts and one was analyzed so that equivalent T & L syrups could be selected. All syrups were heated to insure that no crystals remained. Now one part of each syrup was seeded with fine dextrose, a second with fine sucrose and the third held as a control. All were incubated.

The average analysis was:

Swedish (Enzyme) Table Syrups						
Sucrose	31.58					
Invert	45.68	48.01	high	to	41.54	low
Ash	1.61					
Water	17.74	18.17	high	to	17.31	low
Organic	2.69					
T & L (Acid) Table Syrups						
Sucrose	34.05					
Invert	42.26	47.59	high	to	36.82	low
Ash	2.46					
Water	17.71	19.11	high	to	16.30	low
Organic	3.49					

The proportions are very close. Certainly nothing to warrant the report, "definite crystallization in all ACID syrups. *None* in the Swedish enzyme syrups." It mentions a very slight tendency toward crystallization, if any, on the part of one tube out of the nine Swedish samples but hastens to say that this was not at all certain.

The reason for the different behavior was not known and therefore was not given. The results were all that were needed for commercial purposes and to determine which process to use.

The war stopped research but another point was determined in another laboratory. When it is necessary or desirable to ferment syrups made from raw sugars a far greater yield of invert and therefore of alcohol is obtained if the enzyme method of inversion is used. This was well understood.

When the writer was Research Director for Stephen F. Whitman and Son in the 50's, we had a brilliant chemist who is now with the Eastern Regional Laboratories, Janis Cerbulis. We went carefully over the foregoing facts and other less impressive but equally important data and decided to look into the reason for the different actions. We decided to approach the problem by means of paper chromotography, so Cerbulis prepared invert samples from solutions of pure sucrose in distilled water. In each case the strips showed sucrose, levulose and dextrose.

In the case of the acid inversion the distinction was clear and conclusive. With the enzyme sample however spots appeared between the sucrose and invert which indicated the presence of other substances.

Meanwhile, when the war was over, Mr. deWhalley, research chief of Tate & Lyle, followed up the work done commercially and has published several reports on his work. He determined that at least one of the new spots was a sugar which he isolated and named "Kestose".

Cerbulis showed that the minute percentage of unknown sugars has a distinct effect on the crystallization of sucrose and other sugars in solution with it.

We can consider that we have reached a turn in the road and that "just around the corner" lies the full reason for the different behavior of the two types of invert, and knowledge on how we can make the best use of each in candymaking.

This is the old fashioned basic packing system, used by most home made retail candy shops today. Girl carries stock box, while she places piece in each box, then returns with another stock box for another flavor. Picture is taken at E. L. Brigham's, Suffield, Conn.

This is a Barron Packing Wheel. Stock boxes go around on the principle of a ferris wheel, while the girls on each side pack candy boxes from stock boxes as they pass by. Picture taken in Coach House Candies, owned by Heberts.

How retailers custom pack

With very short runs on any one assortment, these retail manufacturers have exhibited great ingenuity in bringing down the cost of packing

One of the greatest assets that a retail candy store has in competing with large wholesale manufacturers is the individual attention that can be given to each customer. After using the best materials and the greatest care in blending and flavoring, the problem of packaging remains one more area of competition with the largest and best packaging brains, turning out hundreds of thousands of pounds of identical boxed chocolates.

Retail candy manufacturers answer this problem in half a dozen successful ways, and some of these are rather new and decidedly pioneering.

In the northeastern part of the United States three practical candy men have made major changes in the packing systems used by retail candy store owners. All three of these men are members of the ARC and all three are known for their openmindedness and generosity in sharing their ideas with others in the industry. They are: Perley Hilliard—inventor and producer for many years of the Hilliard Tempering Kettle. Today manufacturing the Hilliard Dunker. Joe Oliver—President of the ARC in 1955 and 1956. There are more legends about Joe Oliver's inventions than of anyone else in the retail candy business. And Tom Barron—the inventor of the Hollow Mold Tumbling machine, and the man who can take parts of any machines, put them together, and come out with something new that will make candy!

BASIC PACKING SYSTEM

Back in the beginning, remember, you used to carry a candy box and go from one stock box to another while you packed. Many do this still today. There is good reason, too, as many customers like to watch you pack while they choose their assortment.

The next big move, still many years ago, was to carry the stock box instead of the candy box. Lay out a hundred, or fifty, or maybe ten empty candy boxes on the bench—then from the stock box, a piece to each box, and then another stock box for the next piece. On and on, takes a long time, but it doesn't call for special equipment, and it has a great advantage—you vary the assortment to fit your stock and to make your weight come out in the boxes. Today, after many years of retail candy making, *MOST* family owned single retail home made candy stores pack in this way.

A variation of this is the "Kiddie Car" idea. This consists of a track, with a table on wheels that run along the track. The table is usually about 30 wide, and carries the stock boxes. The packer pushes it along as she packs from its stock boxes into the candy boxes below.

TURNTABLE PACKING

An innovation came some thirty years ago when large room consuming turntables were built, and

Here is Douglas Hilliard with the packing machine built by the Hilliards. The candy is on boards just as it comes from the dippers, and very little clearance is necessary between shelves for this reason.

Mrs. Oliver, left, and Joe Oliver, rear center, with their Oliver packing table. Two belts run down the length of the table, carrying the stock boxes, and they return UNDER the table to start by again. Picture taken at Oliver's Candies, Batavia, N.N.Y.

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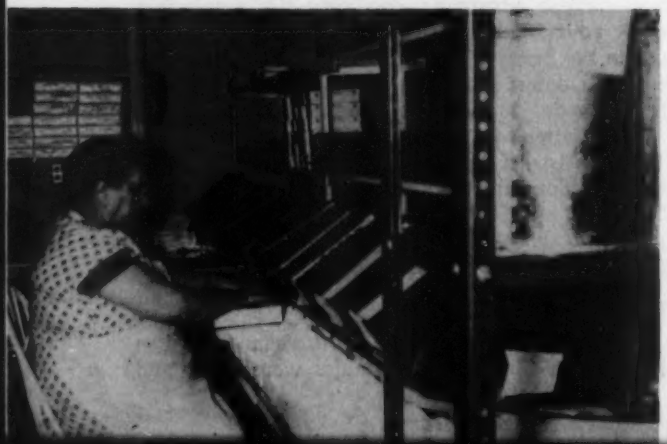
The Tom Barron Packing Belt, where a chain belt conveyes the stock boxes around the packing table, and from one to ten girls can pack at any time. Picture taken in Tom Barron's plant.



stock boxes were swung around on the table in a copy of a mammouth lazy susan. It took up too much room. Boxes would slide off. However, some still are in use and work fine.

THE FERRIS WHEEL

Then one day Tom Barron had the idea to follow the principle of the turntable, but build it vertically instead of horizontally. He built a ferris wheel, holding stock boxes of candy instead of little boys with their dads. He called it the Barron Packing Wheel. All over the northeast—that's where Tom lives—you see his wheels. Among those using them today are Heberts, Putnam Pantry, Russo, Coach House, Stowaway, Hutchinson, Connelly and S. S. Pierce. A girl sits or stands on each side of the wheel, which is 40" wide, and lays out up to a half dozen boxes on a shelf almost touching the wheel. With variable speed control the wheel goes around, and the packer takes the candy from the stock boxes as each shelf goes by. If one girl is faster than the other, she has more boxes placed before her than the packer opposite. The wheel will carry forty stock boxes at one loading, giving a possible packing assortment of forty different pieces.

The Barron Packing Wheel is a huge saver of space over the turntable and is in much favor today. Still, Perley Hilliard decided he could make some changes at least to serve his special requirements, and built a machine to carry about the same number of items, in just about half the space. His machine, now operating in the Hilliard West Hartford, Conn., store, uses a chain system for rotating the shelves. and candy is placed on the shelves on layer boards, not using stock boxes. This fits well with the Hilliard manufacturing needs, as no Hilliard store ever uses stock boxes. Girls in these stores dip from their Hilliard Marvels onto boards that are stacked over each other leaving very little clearance between layers.

THE OLIVER PACKER

While Tom Barron and Perley Hilliard over in New England were experimenting on the ferris wheel principle, out in Batavia in western New York state, our prize of the tall tales, Joe Oliver, was building a packing belt.

It is really an endless chain, with shallow metal trays attached to each side. The chain is mounted vertically and carries the trays across in front of the packing bench, down under on return, and back across in the same direction as before. The device is seventeen feet long, and each tray carries stock boxes that fit tightly into the trays.

With five girls packing on each side from different stock boxes, two assortments can be packed at one time.

Most important, the packing was equally efficient whether he used one girl or ten. As Joe says, "The big trouble with packing belts has always been that you needed a full force to start up your packing department. With candy coming down a belt to be packed, you had to regulate the flow to match the number of packers, and someone

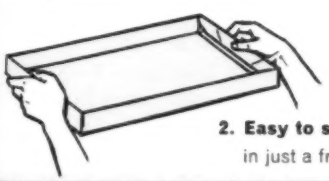
Break through a tradition barrier . . . with

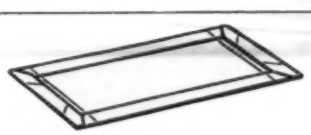
INFOLD LITHOGRAPHED CARTONS BY Milprint* INC.

PACKAGING MATERIALS

Now! Brock Candy Co. of Chattanooga, Tenn. breaks a conventional barrier . . . with the infold lithographed carton which has replaced traditional set-up boxes for substantial savings in costs, labor and storage space – and adds the insistent eye-appeal of brilliant, full-color Milprint lithography! It's a combination that spells *selling power* to spur impulse sales . . . and an example of the "plus values" you get when you call your Milprint man – *first!*

Why infold cartons?





1. They fold flat . . . take up far less storage space!

2. Easy to set up . . . in just a fraction of a second!

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SALES OFFICES IN PRINCIPAL CITIES

Printed Cellophane, Pliofilm, Polyethylene, Saran, Acetate, Glassine, Vitafilm, "Mylar"®, Foils, Laminations, Folding Cartons, Bags, Lithographed Displays, Printed Promotional Material

This insert lithographed by Milprint, Inc. *Reg. U. S. Pat. Off.

had to fill the belt while someone else prevented an overflow from running off at the end. Our packing belt is the answer for the small retailer."

Tom Barron must have been quite impressed with Joe Oliver's idea, because today right in Tom's own plant you find his version of the chain belt packer. Tom Barron, maker and seller of the famous Barron Packing Wheel is himself using his own home made oblong circular chain packing belt! On it are his stock boxes, but placed at a SLANT towards the packers, and a bit higher than the boxes to be packed. The belt goes around and returns along the opposite side of the table. He can seat anywhere from one to ten packers at the table, which is 16' long. The belt will carry up to 72 stock boxes.

"I had occasion recently" says Tom Barron, "to visit one of the large wholesale candy factories. At the time they were packing valentine hearts. There were six rows of forty girls each, and on a belt immediately in front of them moved a row of candy boxes. Just beyond the moving boxes was a stock box of candy, a box for each girl. The candy boxes came by fast, and each girl put in one piece of candy. At the end of the line one girl added the wax paper, another the cover, and there you had a finished box. A fine system for factory production, but how impractical for a home made candy shop—our asset is personal packaging, and what a tremendous advantage we have over the big fellow!"

Tom Barron further had this to say relative to motor driven packing belts as compared to the basic system of hand work carrying the stock boxes —"One very good point in favor of the Oliver and Barron systems, and Hilliard too," said Tom, "is that by using a motor you regulate the speed, and with labor problems today, you just cannot rely on steady work in many shops. When using this system you can count on getting a definite finished production."

RETAILERS HAVE ADVANTAGE

When talking with George Barnes, owner of the two Priscilla Sears stores in Boston, Mr. Barnes brought out that with the flexible packing systems used by the small retailers, many other advantages show up. Many changes can be made immediately by the retailer. The lady who doesn't want pineapple creams, but wants a third of her box packed with nougat, can be served. You have the opportunity to switch quickly from two layer to one layer boxes. The count to the pound is not too important, and most retailers weigh every box, adjusting the assortment to fit the weight.

The retailer can cater to his section of the country, and knows the popular tastes in his locality. The wholesaler must work out a satisfactory assortment that fits both New Orleans and Chicago. Priscilla Sears in Boston sells many a box of chocolate coated wintergreen creams. But who in San Francisco would buy these? They might instead be buying Gordon Hooper's rum flavored victoria creams, mighty hard to find anywhere but on the Pacific Coast.

OMIT CUPS

Three of the Boston B's, Bailey's, Barnes' and Barron's, don't use cups in packing their regular assortments, and some of the very proper Bostonians like their candy the best too. Could a wholesaler offer a box for $2.00 a pound without cupping? Bailey's does, and it's considered traditional in the very best circles of New England.

"And don't forget" says Galo Putnam Emerson, of the famous Putnam Pantry Candies, "that we retailers can and do gift wrap our packages individually for our customers. When you buy a Christmas box from a retailer the wrapping is done by hand, and has a completely different feel and appearance from the wholesaler's box that you may buy in a large department store or chain drug store."

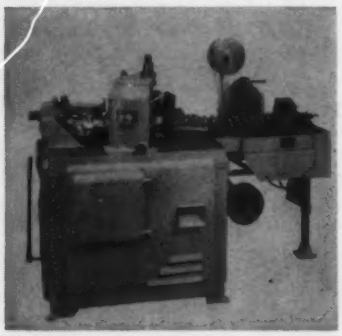
PRIVATE ASSORTMENTS

In all parts of the country there are today home made candy stores where files are kept on customer's special assortments. When a particular customer calls for his pack he gets his own choice—no one else has the same arrangement. Should you know where your friend buys candy, you can purchase her Christmas present at that candystore, and be sure she will receive her own special pack made up just for her.

Seems as though it will be a long time before Automation takes over the American retail home made candy store.

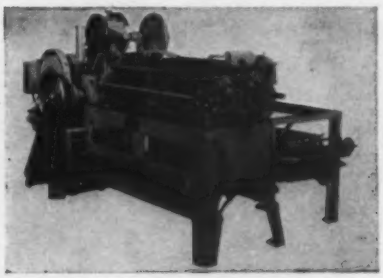
CANDY EQUIPMENT PREVIEW

LATINI DIE POP MACHINE WITH WRAPPING ATTACHMENT



225 formed and wrapped pops per minute.
Low labor cost operation — one operator does the work of four people.
Die pop is free of fins — eliminating scrap.
Weight of pop is adjustable — without change of dies.

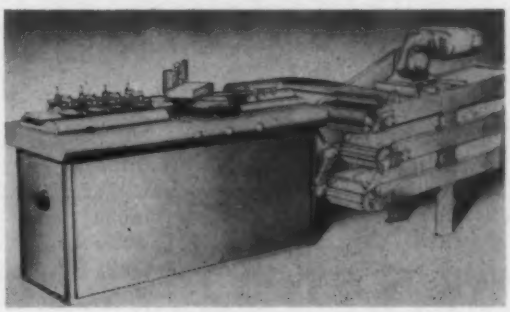
HOHBERGER BALL MACHINE



Only one operator required to produce up to 1,200 lbs. per hour.
You can produce.
Balls—clear, pulled or honeycombed filled—9/16" to 1½" diameter.
Sunbeam Starlights: stripes brought down to center without expensive inlay.

BERKS HARD CANDY MIXER

Mixes color, flavor and acid in 75 to 125 pound batches at rate of 1000 lbs./hr., 10% scrap may be included. Saves labor and floor space. Assures uniform mixing and constant rate of production through the day.



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patent pending

New Style—Twister, Cutter & Straightener

Flexible—satisfies all lengths and diameters

Productive—Up to 1500 inches per minute

Sanitary—Stainless steel finish—Candy always in sight

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Minted by Lyons

STANLEY E. ALLURED, EDITOR

Chocolate covered mints are one of the biggest items at J. Lyons & Co. in England, and their new production line for this product embodies the most advanced types of mechanized equipment.

Manufacturing begins on a balcony over the main production floor, where basic fondant is made on a Baker Perkins continuous machine. It is of the type with a steam dome and large exterior cooling drum. The cooked and cooled syrup is scraped from the drum and falls into a jacketed continuous beater.

Bob syrup is made up in steam kettles. Fondant is then added, mixed well and then flavored. Three such kettles supply the depositor for continuous operation. The finished cream is dropped from the balcony into the depositor hopper on the main floor by gravity. The pipes through which it flows are wrapped with resistance heating wire to preheat them and keep the cream fluid during production halts.

The cream is deposited on a 32 inch continuously moving glazed belt. The depositor swings with the belt during the deposit and returns before the next one. The swing is timed to produce perfectly round mint patties, though it can be adjusted for oval shapes. The Lyon patties are about 1-1/2 inches in diameter, fifteen in each row. They are deposited at the rate of 80 strokes per minute, with the belt traveling 20 feet per minute.

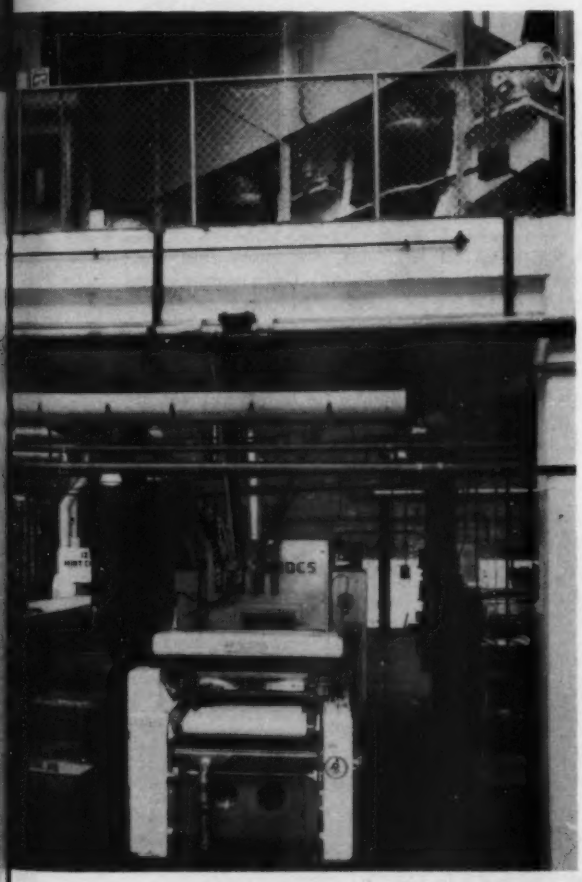
Immediately after depositing, the mints go through a skinning tunnel 24 feet long. Warm air is circulated in this tunnel to dry the surface of the mints and provide a crust that will take the chocolate coating. They must then be cooled to the correct temperature for coating. This is accomplished in a 54 foot cooling tunnel immediately after the skinning tunnel. This tunnel contains cooling coils and fans, and delivers the mints at the correct temperature for coating.

The mints are turned over at this point, which accomplishes two purposes. It exposes the bottoms which have been sealed by the belt to drying in the open air of the room. It also puts the "foot" of the piece on the top where the coating will round it off, fill in the radius of the side and round off the top of the item. This adds considerably to the attractiveness of the finished piece.

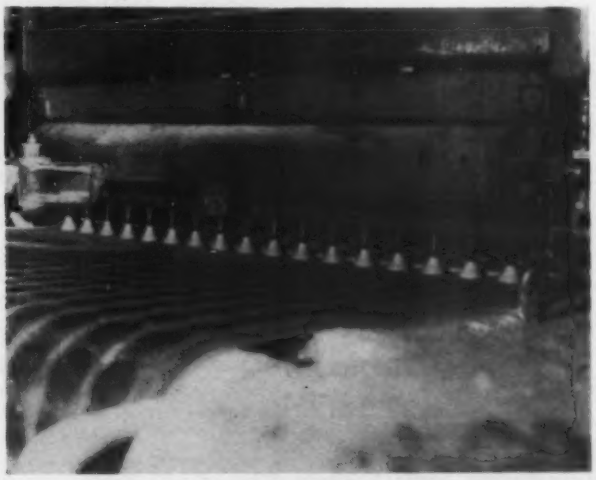
Continued on page 29

1. These are the three cream kettles, where the bob syrup is made up and the fondant and flavoring mixed in. They are started alternately so as to provide a continuous flow of cream to the depositor.

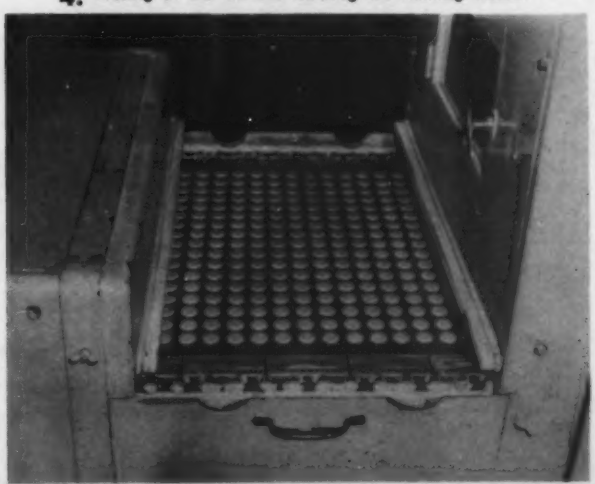
2. The wire wound pipes for delivery of cream to the depositor can be seen coming from the syrup kettles on the balcony to the depositor hopper below.



3. This is a view of the swinging depositor putting down a row of mints. It is moving forward with the continuously moving belt as this picture is taken.



4. This shows the perfect rows of mints leaving the depositor housing on the left and entering the skinning tunnel.



bars or bon bons

BURRELL BELTS ARE BEST

Williamson Candy Company selected Burrell Double Texture "Reflecto" Cooling Tunnel Belts to convey their taste appealing Oh Henry! Bar . . . like so many other leading candy makers Williamson has found "Reflecto" offers these advantages:

- Appearances: Because it's made by an exclusive BURRELL process, it meets the most exacting sanitary requirements, 100% oil and grease proof.
- Durability: When the job calls for rough treatment and hard wear, you're ahead if you specify "Reflecto". Users report up to three times the length of service of previous belting.
- Economy: Initial and long range costs are decreased because "Reflecto" performs better and lasts longer. In plants all over the country they are paying for themselves again and again with greater production, reduced manual labor and increased efficiency.

Hundreds of today's best sellers benefit from Burrells complete line of conveyor belts and specialties for every phase of candy production.

★ Feed Belts ★ Wire Belting ★ Batch Roller Belts
★ Bottomer Belts ★ Carmel Cutter Boards

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New York
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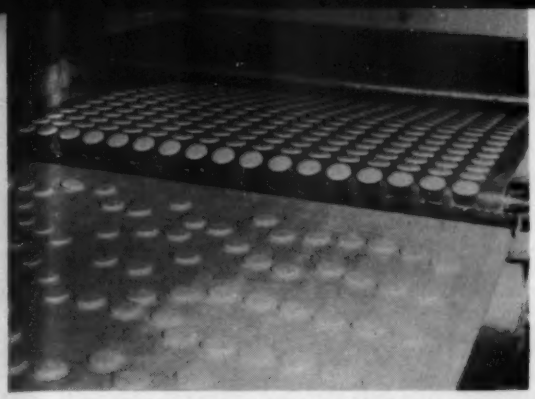
Atlanta
DRake 3-0742

Cleveland
WHitehall 2-0481

BURRELL BELTING CO.

7501 N. St. Louis Avenue • Skokie, Illinois



5. The turnover device is merely a sharp nose on the belt, that loosens the mints with a wire scraper that removes them and allows them to drop onto the belt below, up side down.

6. This general view of three operations shows the turnover device at the far background, the buncher in the middle and the bottomer in the foreground.

•

7. The mints, with a bottom coating of chocolate, enter the enrober. The division between bunches, made just before, is clearly visible.

HERE'S HOW M & R POWDERED WHOLE MILK PROTECTS THE QUALITY OF YOUR PRODUCT

M & R Powdered Whole Milk is gas-packed in convenient, completely sanitary, easy to handle 5-lb. tins. It offers the quality food processor these three important advantages:

- **Consistently high quality product, insured by M & R's rigid quality control procedures, insures consistently high quality results.**
- **M & R Powdered Whole Milk, in unopened tins, can be stored indefinitely at room temperature with absolutely no deterioration.**
- **When you open a tin, you use it all — when you buy in bulk containers you inevitably have an open container sitting around inviting contamination or infestation.**

Of course, any powdered whole milk eliminates the refrigerated storage nuisance involved in using fluid milk, but M & R's 5-lb. tins are the only *complete* answer to the storage and handling problem. Any worker in your plant can easily handle the 5-lb. tin . . . it takes a muscle man to wrestle with heavy bulk containers.

For complete details on M & R Powdered Whole Milk in convenient, completely sanitary, easy to handle 5-lb. tins, just fill out and mail the coupon below. Do it today.

M & R Dietetic Laboratories, Inc.
660 Cleveland Avenue, Columbus 16, Ohio

Please send me details on how M & R Powdered Whole Milk in 5-lb. tins can help us protect quality, eliminate waste and spoilage and simplify handling and storage problems.

Name_____ Title_____

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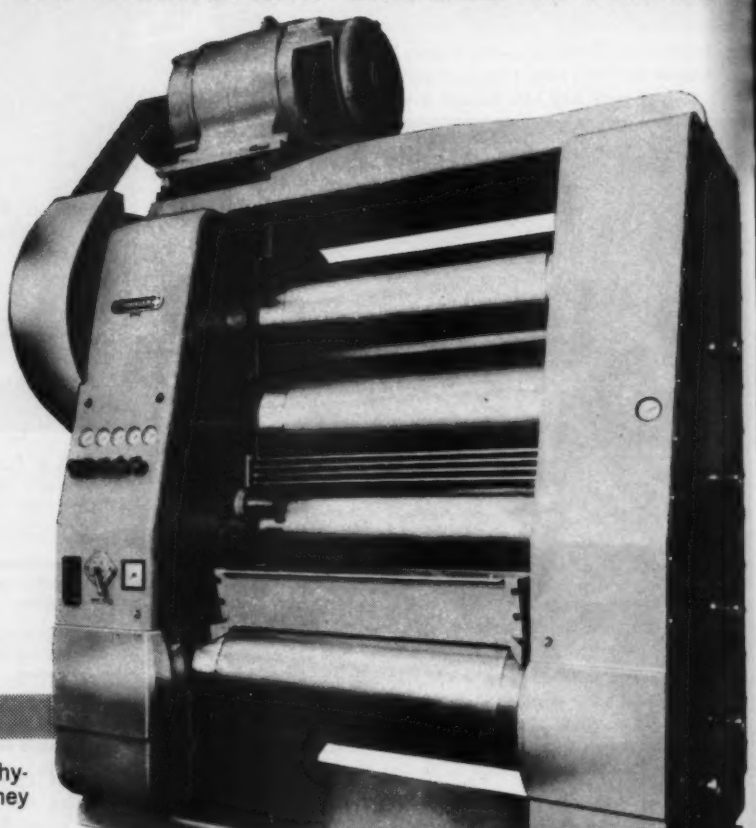
ONLY BUHLER TODAY

GIVES YOU the features others will give tomorrow

HIGH CAPACITY

FIVE ROLLER MILL

for CACAO and CHOCOLATE PASTES



Type SFG-c

- **Constant Roll Pressures** — Fully hydraulic regulation . . . once set they never need readjustment.
- **Hydraulic scraper control.** The pressure of the improved scraper blade is readjusted automatically to keep it uniform and the angle never varies. Fluctuations in output are eliminated. Wear on knife is minimized.
- **Rolls Always Parallel.** In cleaning, the attendant need only operate one switch to release and again to press. The exact service pressures always come into play. This saves time and enables one person to attend several roller mills.
- **Buhler Rolls are World Famous for Quality,** their excellent grip and their resistance to wear.

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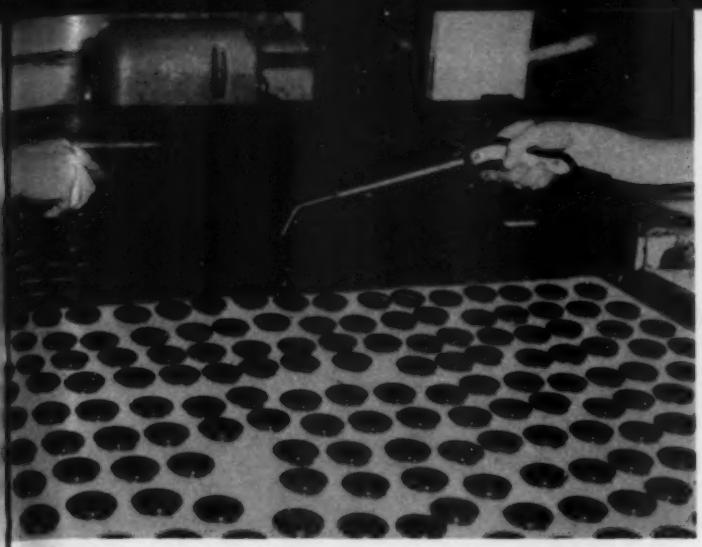
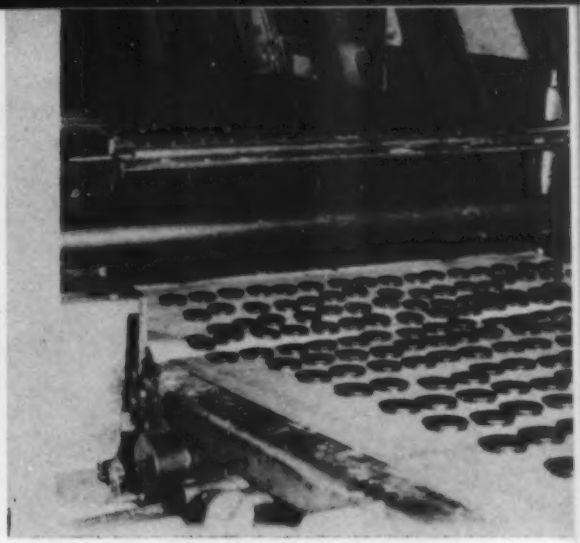
WRITE FOR LITERATURE



8. These electrically heated irons are used to separate pieces and clear the space between bunches for the plaque type cooler that follows.



9. Coated mints, coming off a plaque, are transferring onto the packing belt. The next plaque is descending from the overhead multi-pass area for its turn at unloading.

After turning over, the mints are bunched for the subsequent requirement of the multi-pass cooling equipment. This ingenious equipment progressively speeds up 23 rows of mints to bring them closer together, and leaves a wider space between bunching another group of 23 rows. Each group of 23 rows forms one plaque load at the cooling equipment.

After bunching, the candies travel over the bottomer, to receive a coat of chocolate along the bottoms of each piece. This is followed by a cooling section, with a cold slab under the belt to set the chocolate bottoms. They then go through the enrober for a full coating, and onto the decorating table.

Girls with electrically heated hand irons, somewhat similar to pencil type soldering irons, separate pieces that are too close together and make sure that the space between bunches is clear. The cooling unit, immediately after the short decorating table, automatically and continuously loads each bunch of 23 rows onto cooling plaques, and starts them on a twenty two minute travel within the cooling chamber.

The cooling unit is a multi-pass type, fifty five feet long, that allows a total of 313 feet of travel. Fifteen feet of the length of the unit occupies floor space directly after the enrober. The remaining forty feet of cooling unit is built over the delivery and packing area, giving a little over six feet head room for these purposes.

The plaques are automatically and continuously unloaded onto the packing belt, and the mints are packed directly into packages.

The package form most popular for this item is a hexagonal folding carton, with either one or two rows of mints. Jigs on the packaging bench hold these cartons in place while they are being hand packed. The single row carton holds fifteen mints, while the two row carton holds twenty four. In the two row carton a single strip of waxed paper is folded around one mint so that it can be easily removed as the first piece. The cartons are then overwrapped with cellophane with tear tape.

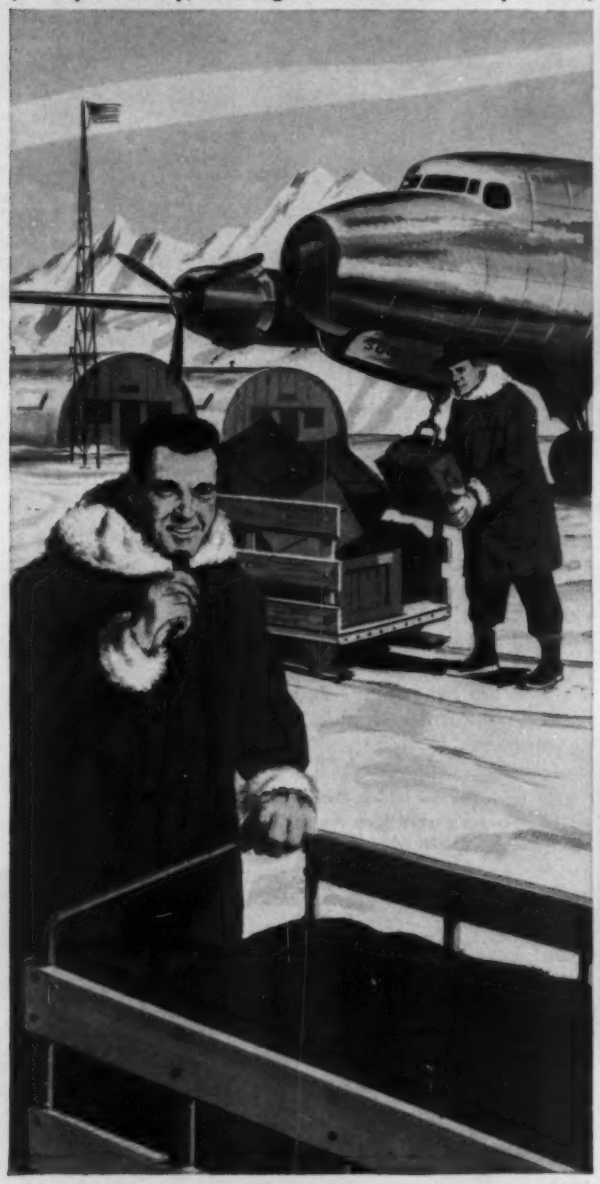
Altogether, this line of integrated machines for the volume production of mints is about as mechanized as can be had with present available equipment.

This line was engineered by Baker Perkins Ltd., and they furnished most of the major pieces of equipment.

10. The hexagonal folding cartons are held in a wooden jig while they are packed from the belt. They are subsequently over wrapped with cellophane and tear tape.

What Candy Makers Should Know About The Far North

(or any other dry, cold region where their candy is sold)



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Always Fresh...Never Too Dry

Whatever the climate, whatever the humidity—one thing is certain. You can improve the taste, texture, tenderness . . . increase the shelf life of your candy, when you use Sweetose Syrup.

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For candy makers, this means far longer shelf life, expanded distribution, plus product quality that never fluctuates with the weather. For the narrow humectant range of Sweetose, the *original* enzyme-converted corn syrup, assures a controlled, appetizing, just-right moisture balance through a wide range of humidities and temperatures.

Important as they are, these are but a few of the many Sweetose advantages. Get the full story on how you too can weatherize your candy to withstand variable climatic conditions—while cutting sweetener costs. Write today to:

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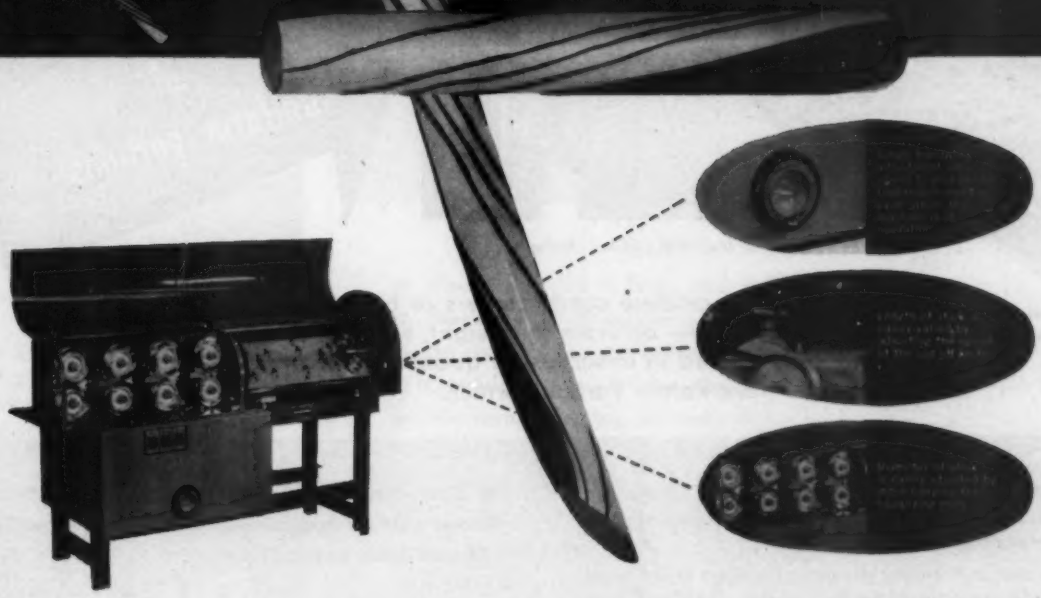
the RACINE STICK CANDY MACHINE

produces up to 1200 inches a minute



One single operator can produce up to 1,200 inches of stick candy a minute with the Racine Stick Candy Machine. For three-inch sticks, this means as much as 400 a minute . . . 24,000 an hour. Just divide 1,200 by the length of stick you want to find out your maximum production.

And, the operator need not be skilled or experienced to attain maximum production immediately. All the operator has to do is feed the machine from a batch roller or flat board. The sizing, twisting, and cutting are automatic and continuous.

Yes, the Racine Stick Candy Machine means increased production, lower costs and greater profits. **Write today for complete details.**

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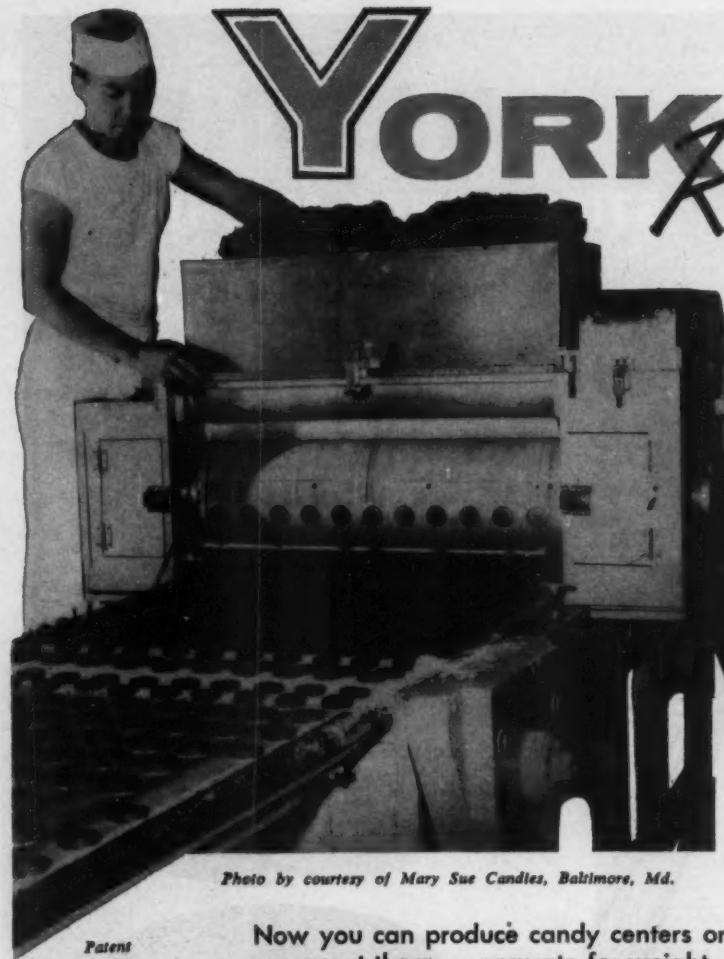
YORK Rotary Portion Former



Cuts Costs... increases production of uniform portions.

Photo by courtesy of Mary Sue Candies, Baltimore, Md.

Patent Pending

Now you can produce candy centers or bars just the way you want them — accurate for weight, size and shape and uniformly ejected in unsurpassed quantities per minute — with the York Rotary Portion Former.

- Operating on a new principle, the York Portion Former does not extrude but forms and shapes each portion individually.
- Vacuum forming prevents damage to the most delicate ingredients so that a wide variety of confections and candy mixtures may be used.
- No starch or starch casting equipment is needed. It eliminates slabs, scoring or cutting equipment. Takes candy cool enough to be coated and forms as many as 1800 small pieces per minute . . . handles up to 2500 lbs. of material per hour. Each machine is equipped with variable speed regulator.
- Continuous operation through to enrober requires no storage between processing stages. Saves valuable plant space.
- Cuts costs, too! One York Rotary Portion Former paid for itself in only four months, through reduced labor time and costs.

York Rotary Portion Formers are available in three sizes: 16", 24" and 32" widths.

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Whitmans expands use of cross-stitch design

Whitman's has redesigned their Fairhill box and introduced the Devon Rose assortment, both boxes utilizing the unique cross-stitch design that has always been used for the Sampler.

IMITATION

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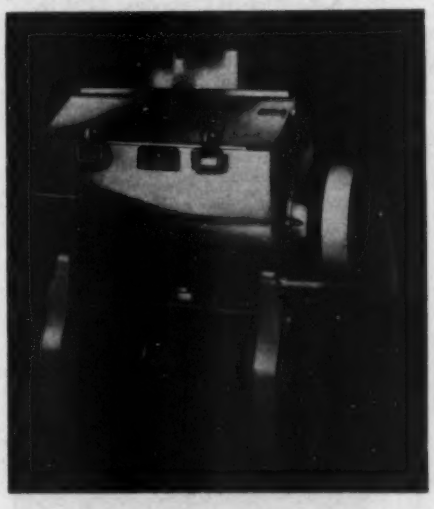

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- **Maximum beating for volume**
- **Faster heat discharge from batch**
- **Creates volume suction of cold air**
- **Larger water jacket for quick cooling**
- **6" outlet valve for quick emptying**
- **Less power needed with roller bearings**
- **Large two piece air vent—sanitary**
- **Direct motor drive**
- **Sizes available: 150 lb. or 80 gal. capacity**
  200 lb. or 110 gal. capacity

SAVAGE oval type marshmallow beater also manufactured with stainless water jacket, galvanized cast iron heads, paddles and breaker bars.

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Technical Literature

Odor From Paperboard and Odor From Printing Ink

Published by the British Carton Association, 27 Chancery Lane, London W.C. 2, England.

These two publications are the result of research investigation by eight associations in England concerned with the problems of the transfer of odor from packaging materials to food products. They are both small pamphlets but give very interesting information on the source of odors from these products and methods to test packaging materials for possible odor contamination.

Nielsen Annual Report to Retail Food Stores

A. C. Nielsen Company, 2101 Howard St., Chicago 45, Illinois. Free.

This annual compendium of vital statistics on the food store field, and its growth, should make interesting reading for all who market through this field. Information included is sales trends in food stores by territory, type, size, etc. The characteristics and merchandising trends of modern food stores regarding self-service, delivery, and merchandising methods.

Colorimetric Determination of Vanillin

N. S. Kapur, K. M. Narayanan, G. S. Bains, D. S. Bhatia, Chemistry & Industry, No. 38 (1957)—Spectrophotometric determination of vanillin with thio barbituric acid complex. The spectrum is characterized by a single absorption peak at 432-434 millimicrons, irrespective of the concentration of phosphoric acid. As low an amount as 0.2 microns per milliliter of vanillin in 92% phosphoric acid gives a color reaction with 0.025 M thiobarbituric acid in M phosphoric acid.

Cacao Bean Pigments and Their Behavior during Fermentation

J. A. R. Maclean, Chemistry & Industry, No. 49 (1957)—A one page summary of the preliminary results of work carried out at the West African Cocoa Research Institute, Tafo, Ghana.

A New Treatment of Hygroscopic Equilibria: Application to Walnuts and Other Foods

L. B. Rockland, Food Research, Vol. 22, No. 6 (1957)—Procedures were developed for the rapid estimation of moisture in shelled and un-shelled walnuts. Moisture sorption isotherms have been determined for various sam-

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ples of in-shell and shelled walnuts. The purpose of this work was to obtain by hygroscopic equilibrium data for foods and to derive a useful mathematical expression for the representation of moisture sorption isotherms of foods to demonstrate a possible use of moisture sorption isotherms for the estimation of the relative stabilities of foods during storage at various moisture levels. Considerable data are presented. The odor, color and flavor of walnuts were evaluated on a moisture basis.

Maple Sirup XI, Relationship between the Type and Origin of Reducing Sugars in Sap and the Color and Flavor of Maple Sirup

J. Naghski and C. O. Willits, Food Research, Vol. 22, No. 6 (1957)— Studies were made to determine the effect of the type and origin of reducing sugars in sap on the formation of color and flavor in maple sirup. Incorporation of reducing sugars in sap before reduction to sirup by atmospheric boiling results in increased color and caramel flavor irrespective of the sources of the sugars.

Critical Data Tables

Corn Industries Research Foundation, Inc., 1001 Connecticut Ave., N. W., Washington 6, D. C., 3 East 45th Street, New York 17, N. Y.

These tables are prepared in a binder so that additional material may be added. Some 400 pages are presently incorporated.

All material is arranged in sections which are as follows: Corn Sirups, Corn Sugars, Dextrose and Sucrose, Starch and Dextrin, Vegetable Oils, Feed and Grain, Factors, Correction and Conversion Tables, Humidity and Water, Miscellaneous, and Index.

For a working knowledge of corn products, the information available here is invaluable. Compositions of the various corn sirups is at one's finger tips. Data presented has been compiled from many authentic sources, saving an immense amount for the researcher who would otherwise have to spend untold hours in seeking through the literature. For example, the vapor pressure of corn sirups; specific heat of corn sirups and corn sugar sirups; phase equilibria in sugar solutions; to mention only random instances are presented.

Besides the data on corn products, much information on other materials as other sugars, is included. To the research man in the confectionery industry, this book is indispensible. Lack of space prevents a more thorough discussion of this contribution. Corn Industries Research Foundation, Inc., is to be congratulated for issuing such basic information in convenient form.

HAVING ? PRODUCTION ? PROBLEMS ?

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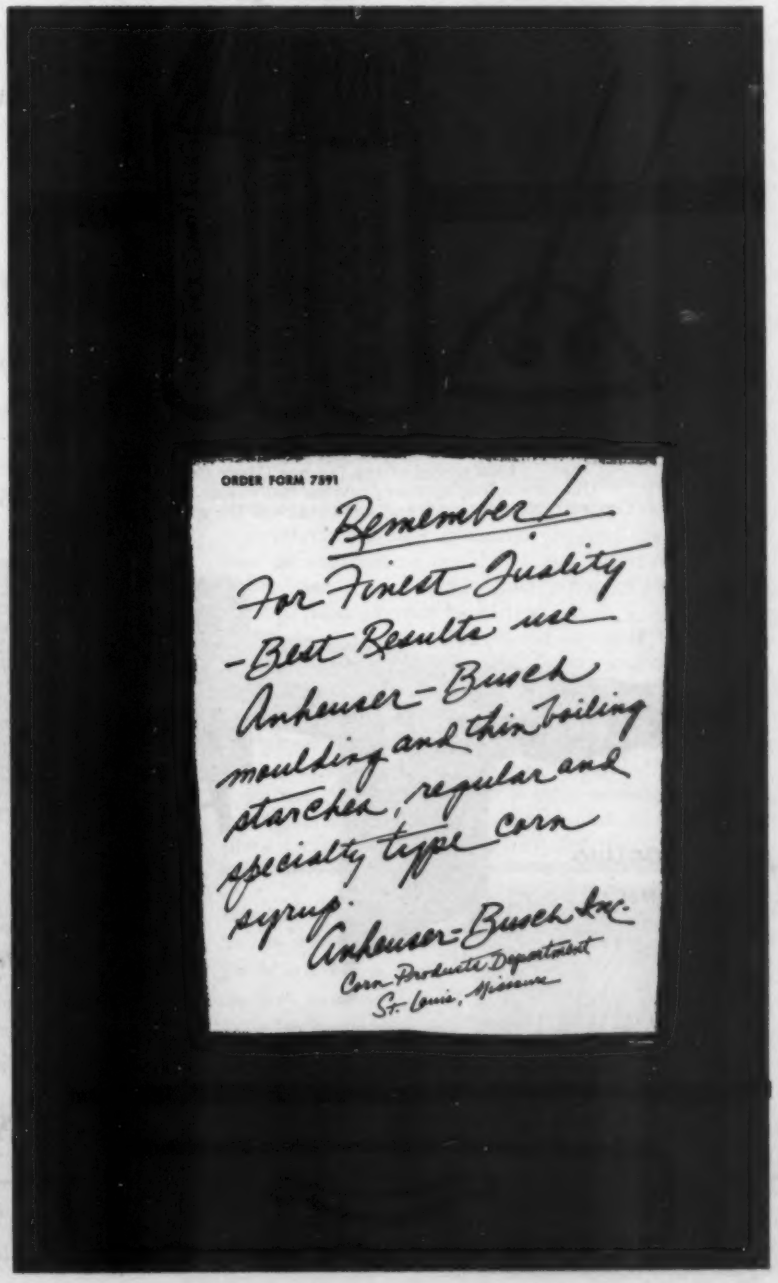
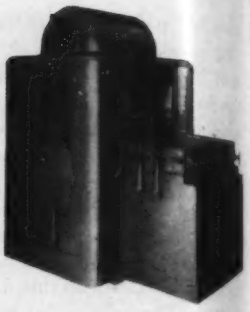


CHOCOLATE COATER



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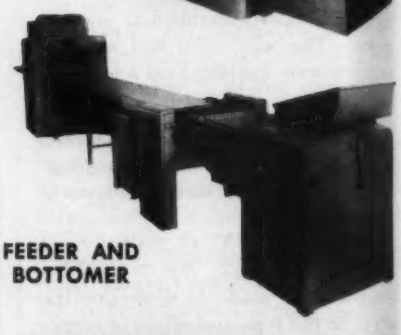

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CONDITIONER. For fast, economical chocolate handling. Uniformly melts, conditions and pumps block coating to points of usage within ten minutes of startup. Automatic — Efficient — Sanitary.

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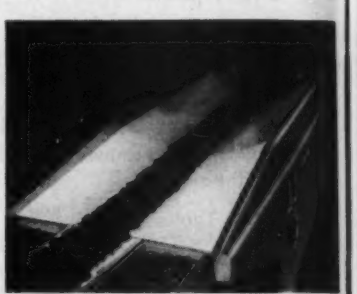

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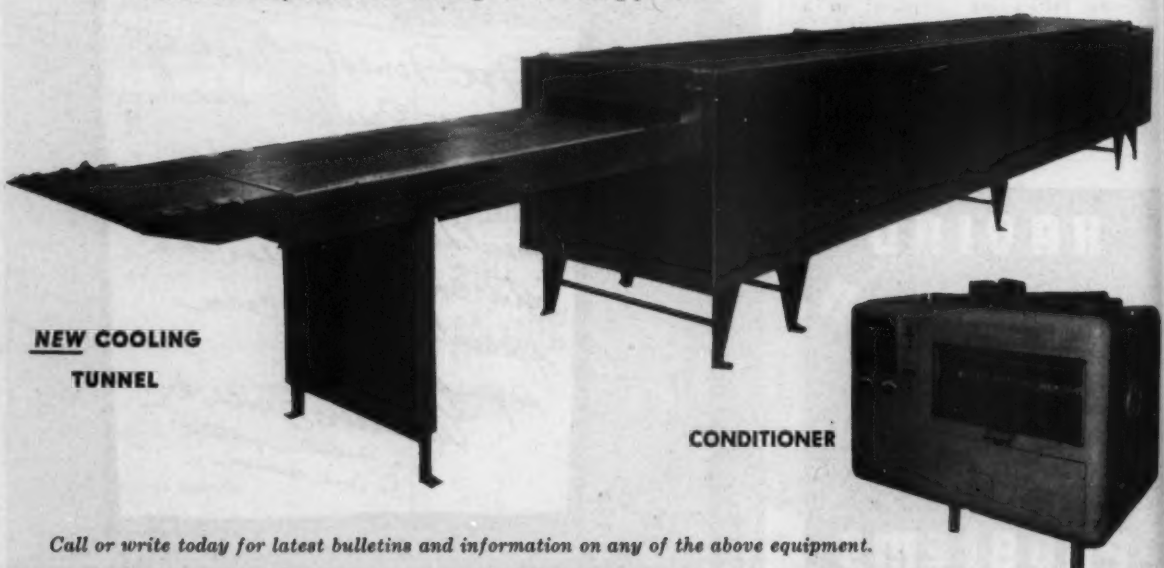

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GREER

This is the first of five installments of an article dealing with future planning of production processes and factory layout, with particular emphasis on new factory construction.

Your future factory

BY V. P. VICTOR, M.E., P.E.
Consulting Engineer, New York City

I. Introduction

Perpetuation of any business should be, and usually is, the prime function and responsibility of its executives.

The art and science of getting this work done comprise a legion of phases.

The ultimate results manifest themselves as profits and competitive standing.

Consequently, the management has, as the mainspring of all its actions, cost control coupled with product improvement.

This is a full time and a *continuous* job.

In isolated instances, the neglect of this function could be easily traced to either incompetence, complacency or to the selfish concept of "apres moi—le deluge".

The majority of the American executives are predominantly "consumer oriented", i.e. overemphasize the sales efforts at the expense of other normal activities, especially the future planning.

At the present time, this unbalance on the national scale causes a grave concern to all patriotic citizens. It is of interest to note that in the February 1945 issue of International Confectioner I wrote: "It is quite axiomatic that no individual, organization or even a nation can neglect for any length of time the outside disturbing influences, no matter what may be their nature or origin".

Since the dawn of history, the new "philosophies" based on sound human values or facts sooner or later replaced those built on obsolete concepts.

This holds especially true in the case of arts and sciences.

Not being readily "sellable" and thus lacking the prospects of immediate financial returns, the intellectual foundations were allowed to deteriorate during the past half a century.

The eventual remedy lies in the change of the attitude, upgrading the status and the recognition of the scientific and technological "work horses" hidden in the offices, laboratories, drafting rooms, work shops, etc.

Reducing to the denominator of one factory, the most ignored function is the *continuous* study leading to periodic introductions of technological improvements. The study comprises research, future planning and modernization.

For the sake of clarity, each is separately and briefly described.

To be fruitful, research must be thorough, persevering, and free of any completion "deadlines".

Research signifies invention as well as adaptation of equipment, methods and procedures. In either case, a very careful evaluation of the resulting end product must be carried out.

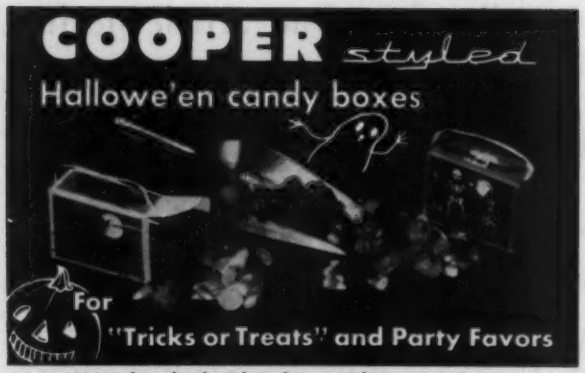
Concurrently, due consideration must be given to the practice and feasibility of sound design, economical construction and trouble-free operation.

Future planning is highly individualistic because all plants are different if only that the people who work in them are unique individuals.

Future planning is a continuous process dealing with people, materials, machines and all pertinent plant facilities required to turn out the goods.

Editor's Note: V. P. Victor has an extensive background in process engineering, with particular emphasis on air conditioning, refrigeration and process heat exchange.

In his work with candy manufacturers, he has had considerable experience in candy machinery development, process engineering and factory layout.



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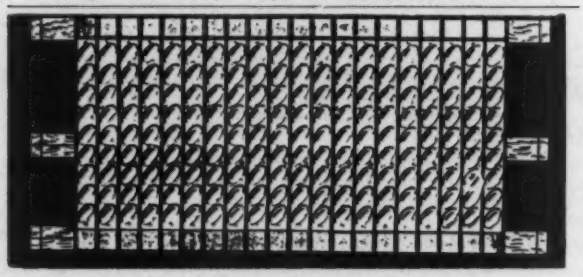

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Now with a NEW FINISH
which eliminates break-in-time

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It could be defined as a gradual formation of a series of long range objectives and programs.

Modernization is a periodic act of putting into practice the new ideas and tangible equipment derived from the previous research and planning.

Presumably, every publication, book or paper must have at least one good reason for being printed.

The aim of this paper is to describe the quintessence of only one phase of a manufacturing business—the continuous planning of the production facilities with emphasis placed on the construction of a new plant.

By "manufacturing facilities" I do not mean the evaluation of isolated machines, but the integration of all factors encountered from the receiving and during the conversion of raw materials into the merchandise loaded for shipment.

The very idea on which the new philosophy of automation is built, encompasses the coordinated FLOW through the plant.

Individual machines should be viewed as important component links but not as the manufacturing facilities.

At least 50 percent of all direct labor man-hours are spent directly or indirectly on some form of materials handling.

Conversely, the time the product or its ingredients remain in the machines represents a few percent of their total residence time in the plant, i.e. from receiving to shipping.

In a few words, it costs a lot of money to store

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and move the goods in the factory. This is one of the greatest ailments in most plants, and, hence, is dealt with separately.

Lack of room and the building obsolescence are felt most acutely in the plants located in the cities.

Mushroomlike growth around the original building, haphazard expansion and the encircling urbanization almost universally account for the almost hopeless, and often incurable, conditions. To relieve the pressure, many a concern had no choice but to resort to the operation of two or more factories in the same city besides using outside storages. Needless to say, the profits are eaten up by the excessive materials handling and overhead.

The solution is obvious—either to go out of business or to build a new plant. However, the latter simple answer immediately introduces a galaxy of problems, some of which seem unsurmountable.

Of course, this cancerous state did not occur overnight, but took a long time to develop. Moderate and timely exercise of foresight and future planning would have paved the way for the corrective measures.

Overlooking the past and taking prevailing conditions as the start, the question is how to get to the full scale production in a new plant with fewest headaches.

First, because of the cost of deliveries and other factors, the correct balance between the integration of the enlarged production facilities under a single roof and of the decentralization on a multiple plant basis has to be carefully established.

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NO GROOVES • NO WASHERS

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Available in all sizes, single, double, triple and quadruple for Mogul and all types of depositors.

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Dark and Light Chocolate in One Mixer

Only Stehling offers you a 2-COMPARTMENT MIXER

A vertical center partition divides the Stehling 2-compartment chocolate mixer. Each compartment has separate agitators.

Users work dark chocolate in one compartment, light chocolate in the other; or melt and mix in one while drawing off the other.

One mixer does the work of two, with superior mixing action that no other mixer gives you. In capacities from 3000 lbs. to 15,000 for each compartment.

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Speed Makes The Difference!

450 CARAMELS CUT and WRAPPED EVERY MINUTE

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Speed that's always dependable — Safety than can be counted on — maximum production at least cost—that's the Ideal Special Caramel Wrapping Machine!

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II. Financial Planning

Assuming the logical procedure of erecting one plant at a time, the Economic Analysis is the next step. It could be divided into three parts, namely:

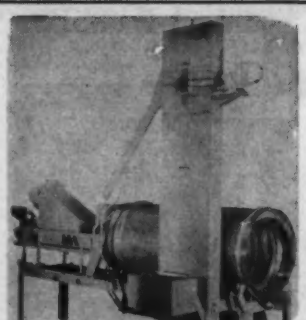
1—*Pertinent Economics*
Initial cost, operating cost, savings, depreciations, net profits.

2—*Financing the Project*
Available and required funds, sources of funds, financial structure before, during and after completion of the project, inducements.

3—*Legal and Intangible Aspects*
Technology always advanced in the shadows of replacements and substitutions.

It would be presumptuous and unwise to create an impression that all contingencies can be anticipated and provided for. Hence, the utmost advisability to keep the element of the unknown at a minimum. This specifically applies to the introduction of new equipment and methods without previous experience in a pilot plant or on the production line.

In other words, the erection of a new plant is a full fledged job and cannot be retarded by or combined with any projects whose engineering is based on hope instead of factual data.



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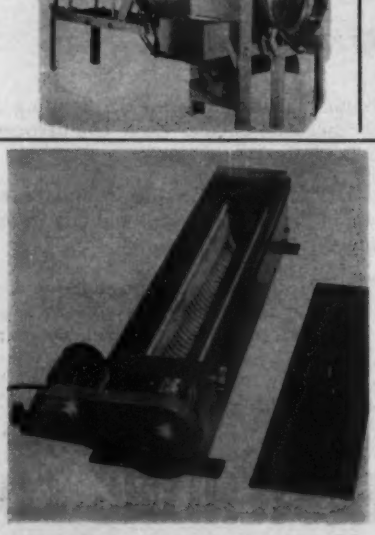

LATINI DECORATOR

Saves Labor—eliminates from 2 to 6 strokers per enrober.
Versatile—variable speed drive, elevation control and 3 sets of decorating belts make a wide variety of markings.

LATINI CHOCOLATE SPRAYING SYSTEM

Unexcelled for Panned Goods and Pre-Building for Enrober. 1000 lbs. per pan per day. Systems available from 4 to 12 pans.

John Sheffman, Inc. **152 WEST 42nd STREET NEW YORK 36, N. Y.**

The common and rather popular fallacy of erecting a new plant and simultaneously carrying out the belated research, invariably causes considerable, and sometimes fatal, delays.

Unfortunately, many managerial problems concerning the finances cannot very well be made entirely objective. Nevertheless, a maxim in any planning is to maintain a rational and a realistic approach, i.e. reduce the guesswork as much as possible.

The legal problems that may arise during the preliminary stages and during the performance of a construction contract are outside the scope of this article and are herein merely saluted in passing.

All three parts of the economic analysis must be evaluated and related in the act of making a decision.

The first and the cardinal item in the economic analysis is the initial cost of the plant ready to run.

The accuracy and the dependability of the final budget figure is directly proportional to the care and the degree of detail to which it was worked out.

For example, a rough guesstimate of the building size and of the unit cost per square foot of floor area would establish the building cost in a matter of a few minutes.

On the other hand, the preparation of the building layout would consume time, as all production facilities with auxiliary services, power, steam, water, etc. would have to be determined first and then the building wrapped around them.

The guesstimated vs. the laid out floor area may vary as much as 50 percent with corresponding and rather disastrous effect upon the budget figure.

In short, it does not pay to deal recklessly or hurriedly with any constituent entering into the criteria for the decision of major magnitude.

Notwithstanding, one question must still be faced as to the total investment a new manufacturing plant may warrant. One cannot give a specific answer to a general question. At a risk of oversimplification, in the candy industry for example, one half of the yearly sales volume seems to be the figure.

Continued in our next issue

ALWAYS AT YOUR SERVICE

In Cocoa Since 1899

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COCOA BROKERS

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Cocoa and Chocolate Products

THOUET

LONGITUDINAL FRICTION

CONCHE

The approved

and

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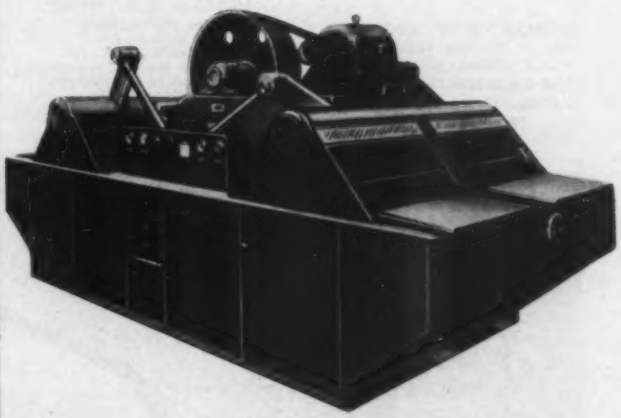
Satisfied customers–

Best references



Type C-4000 = 4 x 1000 kg capacity

Type C-2000 = 4 x 500 kg capacity

Other famous THOUET products:

Circular Friction Conches, Five Roll Refiners, Three Roll Refiners, Four Roll Cocoa Refiners, Storage Tanks and Chocolate Pumps

Write today for full information

THOUET MASCHINENBAU • AACHEN

Possessors Franz and Rudi Knops

Hickelweg 21 **Rhineland / Germany**

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Personal service to 183 jobbers, super-markets and department stores. Backed by 26 years experience in the confectionery field. We call on every account personally every six weeks. Candy is our business.

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Terr.: Kentucky, Tennessee, Alabama, Mississippi, Louisana

IRVING S. ZAMORE
2608 Belmar Place
Swissvale,
PITTSBURGH 18, PA.
Confectionery Broker Representing Manufacturing Confectioners Since 1925
Territory: Pennsylvania excluding Philadelphia.

Calendar

March 11-12; Canadian Packaging Conference, King Edward Hotel, Toronto

March 25-28; Packaging Machinery Manufacturers Institute, and Machinery and Materials Exposition, Atlantic, City.

April 23-25; Pennsylvania Manufacturing Confectioners' Assn. 12th Annual Production Conference, Franklin & Marshall College, Lancaster, Pa.

May 18-21; Flavor Extract Manufacturers Convention, Edgewater Beach Hotel, Chicago

May 24; Empire State Candy Club annual dinner dance, Hilton Statler, Buffalo, N.Y.

May 26-30; AMA National Packaging Exposition, Coliseum, New York City.

June 15-18; Metropolitan Candy Brokers Show, N. Y. Trade Building, New York City

June 16-19; Southern Candy Jobbers Convention, Miami.

July 6, 7, 8, 9; Associated Retail Confectioners Annual Convention, Mark Hopkins Hotel, San Francisco, Calif.

July 6, 7, 8, 9, 10; National Confectioners Assn., Sheraton Palace, San Francisco, Calif.

July 13-19; National Confectionery Salesmen's Ass'n Convention, Hershey, Penna.

August 3-7, National Candy Wholesalers Assn., Inc. annual meeting, Commodore Hotel, New York, N. Y.

August 12; Chicago Candy Production Club All-Industry Golf Tournament, Chicago

August 24-27; Boston Candy Show, Boston, Mass.

We believe in modern machines. We use them. But we offer you this plus: all of our folks take a personal interest in preserving our quality reputation.
That's why our chocolate products are always right to your specifications.
When it comes to quality—people mean more than machines
WILBUR-SUCHARD CHOCOLATE COMPANY, INC., Lititz, Penna.

The MANUFACTURING CONFECTIONER'S Clearing House

MACHINERY FOR SALE

FOR SALE

Model S # 3 Savage Fire Mixers.
50 gal. Model F-6 Savage Tilting Mixers, stainless kettle.
200 lb. Savage Oval Top Marshmallow Beaters.
Cut-Rol Cream Center Machines.
50" two cylinder Werner Beater.
1000 lb. Werner Syrup Cooler.
200 lb. to 2000 lb. Chocolate Melters.
24" and 32" N.E. Enrobers.
Simplex Gas Vacuum Cooker.
Simplex Steam Vacuum Cooker.
Savage Cream Vacuum Cooler.
600 lb. Continuous Vacuum Cooker.
Form 3 and Form 6 Hildreth and Factory Model American Pullers.
6' and 7' York Batch Rollers.
National Model AB Steel Mogul.
National Wood Starch Buck.
38" Copper Revolving Pans.
Ball and Dayton Cream Beaters.
100 gal. Copper Mixing Kettle with Double Action Agitator.
We guarantee completely rebuilt.

SAVAGE BROS. CO.
2636 Gladys Ave. Chicago 12, Ill.

For Sale:

5—Roller Refiner

16"x 40". Hand wheel operated.
Brand new, discontinued model.

Buhler Brothers, Inc.
130 Coolidge Ave., Englewood, N. J.

Werner Duplex Fondant Beater and Cooler, 27", complete with motor. Never been used. $400.00; Choc. tray rack complete. $15.00; Choc. Warmer, (Thos. Mills, #2 Elec.) $24.00; Cream Dip Pot, (Thos. Mills, copper, elec.) $25.00, Thomas B. Crowley, 1019 Maple Ave., Rickville, Md.

USED CONFECTIONERY MACHINERY for sale: 1 stainless steel packing hopper; 2 revolving copper pans, without motors; 1 cones sifter; 1 Model 806 Sparkler horizontal filter with 1/3 H.P. motor; 2 8" batch rollers; 1 large size Hobart beater with motor; 1 label glueing machine; 1 Thos. Mills coconut slicer; 1 #63 National coconut slicer with ½ H.P. motor; 1 bon bon center forming machine; 1 small vacuum copper cooker; 1 copper Burkhard nougat kettle with 7½ H.P. motor, Reeves drive; 1 cream breaker and remelter; 1 coconut slicer; 1 Sheffman-Wolfe starch dryer; 1 National #204 M M beater. Walter Williams Candy Co., Oklahoma City, Okla.

D. F. Bar Wrapper; Lynch Wrap-O-Matic; 2 Hansella Plastic Machines with 10 sets of dies; Simplex Steam Cooker with high dome; 32" Greer Enrober. Box 381, The MANUFACTURING CONFECTIONER.

3x6 Mills Slabs; Steel Mogul with Stacker; Battle Creek Model 46 Wrapper with eye; LP Sucker Wrapper; Simplex Steam Cooker with new pump; Model "B" Stokes Transwrap, volumetric. Box 382 The MANUFACTURING CONFECTIONER.

Scandia Wrapper for 5¢ boxes; Cough Drop Carton Machine; Forgrove Foil Wrapper; Merrow Cut-Rol Machine; 2-Way Caramel Cutter; 600-lb. N.E. Continuous Hard Candy Cooker. Box 383 The MANUFACTURING CONFECTIONER.

Clean Out Sale

1 Triangle G2C automatic bag weighing & filling machine (3 yrs old)
1 Paskrite continuous cellophane sealer
1 Paskrite continuous polyethylene sealer (like new)
2 Champion 4 speed vertical mixing machines (110 qt)
2 Steel 3' x 8' heating & cooling slabs
1 Stainless steel steam cooker (100 gal)
1 Stainless steel steam cooker (40 gal)
1 Electrical double boiler cooker (40 gal)
1 Marco stainless steel 2" food or syrup pump
1 Bryant dehumidifier (perfect for large areas and starch rooms—only 3 yrs old 1000 C.F.M.)
3,000 Empty starch trays with masonite bottoms excellent condition (almost new)
5,000 New corrugated cartons
1 Rotary confectionery or sugar coating and dusting drum for continuous production
1 Coconut coating drum for continuous production, (also sugar coating machine)
1 5 ton air conditioner—excellent condition
1 Complete bottle filling machinery Long Island Equipment
1 World bottle labeler and Knapp can labeler
1 Large savage beater—5 H.P. (approx 250 lbs)
1 Nat'l Equipment Starch mogul and depositor with 16 & 18 spout hydro pump bars
Copper cooking kettles—20 qt. to 50 qts
1 Under & over Exact Weight scale
1 50 foot 8" conveyor belt
1 500 lb. elevator lift
1 Vertical gas open fire paddle mixer with motor (50 qts)
1 Large refrigerator—8 cu. foot
3 2" stainless steel 3 way valves
2" & 1½" stainless steel tubing, fittings, elbows, etc.
2 Jacketed copper cooking kettles (steam) 60 gal. ea
3 Heavy steel wagons
1 200 gal. glass lined jacketed tank
1 250 gal. glass lined jacketed tank
1 Refrigeration 2 HP compressor
Variety electrical switches 220-3 phase and single phase
Variety of meters
Also vanilla flavoring from Flaverama
Also possess experimental "Marshmallow Extruding Machine" with 15 feet by 4 foot wide extruding conveyor with all stainless steel extruding manifold. Believe this to be a workable machine.

National Bakers Supply Corp.
43 Summer Street Somerville 43, Mass.

SITUATION WANTED

Production man. Agressive with wide experience in general line, package or bar goods plants. Best of references. Box 384, The MANUFACTURING CONFECTIONER.

English executive, 26. In charge of production with 700 employees seeks responsibility any branch chocolate-candy industry. Arriving N. Y. April. Attending P.M.C.A. conference. Box 385, The MANUFACTURING CONFECTIONER.

FOREMAN: Available for Large Candy Manufacturer to take charge in all phases of Candy pan line including Starch, Jelly, Cream, Fudge. For Halloween and Easter Candy, Bubble Chewing Gum Base, and Slab work.

I will teach the above anywhere in the states and foreign countries. Box 9716, The MANUFACTURING CONFECTIONER.

Situation Wanted. Supt, practical candymaker over twenty years experience as Supt. Competent to assume full charge of factory producing popular priced merchandise. Box 387, The MANUFACTURING CONFECTIONER.

HELP WANTED

"Manager for a medium sized candy manufacturing operation. Must be well trained, familiar with both machine and hand dipping, qualified to supervise packing and all phases of manufacturing operations. Located in Midwest. Needed by early summer. All replies will be kept strictly confidential. Reply to Box 283, The MANUFACTURING CONFECTIONER giving full details, age, experience, salary expected."

CHEMIST

Prominent Canadian Chocolate, Confectionery and Ice Cream manufacturer has opening for Food Chemist. Preferably, applicant should be 25 to 30 years of age, should have had a few years experience in chocolate and confectionery manufacturing, and be capable of supervising all laboratory duties, and conduct experimental and development work in the plant. Position, which may lead to chief chemist, offers good starting salary, pension and insurance plan, and other welfare benefits. We would provide financial help in general moving expenses. Reply in detail, and in confidence, to: Box 386, The MANUFACTURING CONFECTIONER.

(Continued)

favorite
in the
candy
"sweetstakes"

Yes, your products will start fast and finish "in the money" every time . . . when you use Clinton products from corn.

Take Clinton corn syrup, for example. For years it's been an "odds-on" favorite. Candymakers like the way it prevents crystallization, controls body, texture or chewiness and extends shelf life.

And corn syrup is only one of the Clinton thoroughbreds. Others are starches and dextrose.

No matter which candy race you're in, the odds are heavy in your favor when you use Clinton products.

. . . *and remember* technical service in connection with your specific problems is available without obligation

Quality products

FROM THE WORLD'S CORN CENTER

CLINTON

CLINTON CORN PROCESSING COMPANY

CLINTON, IOWA

HELP WANTED

Candymaker, experienced in making hard candy and taffy to set up new department. Opportunity to buy part interest in present profitable Eastern Pennsylvania plant if desired. Box 284, The MANUFACTURING CONFECTIONER.

BUSINESS WANTED

Eastern Pennsylvania manufacturer will buy or merge small established candy factory that can be moved. No real estate wanted. Key personnel will be retained. Box 285. The MANUFACTURING CONFECTIONER.

BUSINESS OPPORTUNITIES

FOLDING CANDY BOXES: All sizes carried in stock for prompt delivery. Plain, Stock Print or Specially printed. Write for our new catalog of Every-Day and Holiday Fancy Boxes, and all Paper Products used in the manufacture and packaging of candies. PAPER GOODS COMPANY, INC., 270 Albany Street, Cambridge 39, Mass.

BULK CANDY CASES FOR SALE

Large variety of sizes. Adaptable to any location. Finished in hardwood and wood grained formica. Some refrigerated. Excellent values. Write for details. Box 282. The MANUFACTURING CONFECTIONER.

WE BUY & SELL

ODD LOTS • OVER RUNS • SURPLUS

"Cellophane" BAGS

SHEETS•ROLLS•SHREDDINGS

Cellophane rolls 100 ft. or more

ALSO MADE OF OTHER CELLULOSE FILM

Glassine Bags, Sheets & Rolls

Diamond "Cellophane" Products

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"At Your Service"

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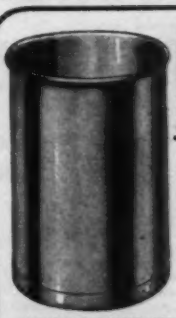
Victory 2-1030



STANcase EQUIPMENT

STAINLESS STEEL DRUMS

MODEL 30--30 GAL.

MODEL 55--55 GAL.

(Covers available)

ECONOMY EQUIPMENT

RUGGEDLY CONSTRUCTED FOR LIFE TIME WEAR.

FULLY APPROVED BY HEALTH AUTHORITIES.

Manufactured by

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or SALE Piecemeal

All Machinery and Equipment

formerly used by

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EQUIPMENT PRICED VERY LOW FOR QUICK REMOVAL!

NO REASONABLE OFFER REFUSED

MUST BE SOLD and MOVED IMMEDIATELY

INSPECTION INVITED

Representative on Premises of Plant

Equipment was in operation until recently.

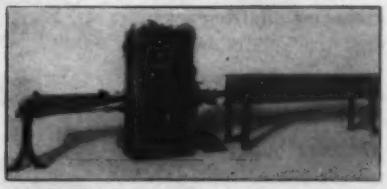
Still set up in original position.

These offerings are subject to prior sale.

Hohberger Continuous Automatic Cream Machine complete with Premelting Kettles and large high-production Hohberger Smooth Cream Beaters, up to 20,000 lbs. per day capacity.

10,000 Standard Size Starch Trays with Starch.

18 — Revolving Pans, 38", with and without coils and ribs, mostly Holmberg make. 5 — Steam Jacketed Syrup Kettles, 20 to 50 gal. cap.



National Equipment 16" Enrober with Cooling Tunnel and full equipment.

National Equipment 24" Enrober with Automatic Feeder, Double Bottomer, Automatic Temperature Controls and Cooling Tunnel and Packing Table.

...nal Equipment Cherry Dropper and Depositor.

3 — National Equipment 500 lb. Chocolate Melters.

50 gal. Savage Patent Tilting Kettle, Double Action. Day 75 gal. Double Arm Coconut Mixer, tilting type. 80 qt. Hobart Vertical Mixer.

Amsco high speed Rotary Bag Sealer with Stainless Steel Conveyor. Triangle Model G2C Filler.

...AL LIST OF MACHINES AVAILABLE

- ...National Equipment Fully Automatic Wood Mogul.
- ...00 Standard Size Starch Trays with starch. 14½" x 32" outside dimensions.
- ...National Equipment Automatic Cherry Dropper connected to Depositor with Pump.
- ...Double Width Steel Skids for Starch Trays.
- 1 — Hohberger Continuous Cream Machine with High Production Cream Beater. Up to 20,000 lbs. capacity per day.
- 1 — National Equipment Coconut Depositor with Pump.
- 1 — Hobart 80 qt. Mixer and Whipper.
- 1 — Day #5 Jacketed Double Arm Mixer.
- 1 — Savage 50 gal. Double Action Patent Tilting Kettle.
- 3 — Savage 100 gal. Double Action Steam Jacketed Mixing Kettles.
- 18—38" Revolving Pans, fine condition, with and without ribs.
- 2 — National Equipment 24" Enrobers, Automatic Feeders, Bottomers, Automatic Temperature Controls, Cooling Tunnels.
- 2 — National Equipment 16" Enrobers, Automatic Feeders, Bottomers, Automatic Temperature Controls, Cooling Tunnels.
- 3 — National Equipment 500 lb. Chocolate Melters.
- 1 — Triangle G2C Filler connected to Amsco Rotary Bag Sealer by conveyor.

UNION

CONFECTIONERY MACHINERY CO., INC.

318-322 Lafayette St. New York 12, N. Y.

167 North May St. Chicago, Illinois

UNION Rebuilt Machinery Established 1913

VISIT THIS PLANT OR WRITE, WIRE, PHONE COLLECT FOR DETAILS AND PRICES

We
really pulled a
"blooper"
for our good
client . . .

WM. ZINSSER & CO.

Perhaps you saw the Zinsser advertisement in the February issue of this magazine featuring Pharmaceutical Glazes. To our embarrassment, our Forwarding Department sent the plate scheduled for the drug field!

For many years Zinsser had been the prime supplier of shellac glazes to the Pharmaceutical Industry. And the same quality control and purity standards are available to you in their Confectionery Glazes, as featured in the advertisement shown here.

We told our client that this ad would receive special attention. If you are in the market for Confectionery Glazes, will you help us prove it by mailing the coupon below? Thank you.

HAZARD ADVERTISING COMPANY, INC.

WM. ZINSSER & COMPANY, INC.
516 West 59th Street
New York 19. New York

Please send samples of Confectionery Glazes and further information:

Name_____

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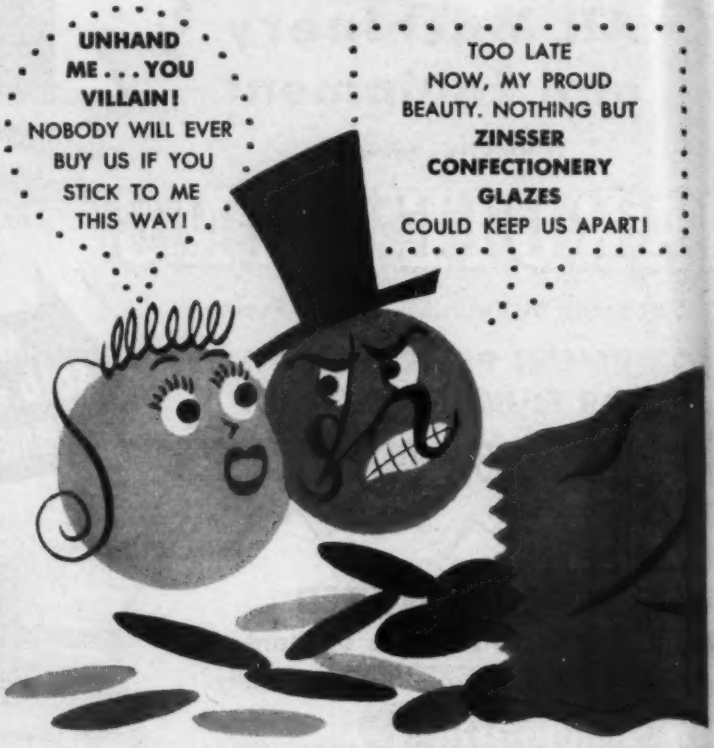
Company_____

Address_____

_____

City_____ State_____

"STUCK AGAIN!"


UNHAND ME . . . YOU VILLAIN! NOBODY WILL EVER BUY US IF YOU STICK TO ME THIS WAY!
TOO LATE NOW, MY PROUD BEAUTY. NOTHING BUT ZINSSER CONFECTIONERY GLAZES COULD KEEP US APART!

No doubt about it, there's real customer resistance to candy that's stuck together. And the best insurance against sticking is ZINSSER CONFECTIONERY GLAZES. They'll keep your candy looking better, too — fresher-looking and full colored.

Zinsser Confectionery Glazes are:

- ★ *Quick-drying solutions of non-toxic shellacs in approved alcohol formulae*
- ★ *Guaranteed free from arsenic and rosin*
- ★ *Made in compliance with regulations of the Pure Food and Drug Act*
- ★ *Non-hygroscopic*

WHICH GLAZE SUITS YOUR PRODUCT BEST?

REGULAR — full-bodied, opaque, creamy solution. Gives a clear film.
REFINED — wax-free, transparent, Rhine wine color. Gives a crystal-clear film, has lower viscosity than Regular.
ORANGE — color of conventional liquid orange shellac. For use where a transparent orange film is required.

Available in 3-, 4-, or 5-lb. cuts with 28¾%, 34¾% and 40% dry solids respectively, or special formulae. Can be applied by tumbling or pan spraying.

Write for test samples and further information to:

WM. ZINSSER & CO.

offices and factories at

516 W. 59th St.
New York 19, N. Y.

319 No. Western Ave.
Chicago 12, Ill.

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Advertisements of suppliers are a vital part of the industrial publication's service to its readers. The following firms are serving the readers of *The Manufacturing Confectioner* by placing their advertisements on its pages. The messages of these suppliers are certainly a part of the literature of the industry. Advertising space in *The Manufacturing Confectioner* is available only to firms supplying equipment, materials, and services for the use of confectionery manufacturers.

★ ★ ★

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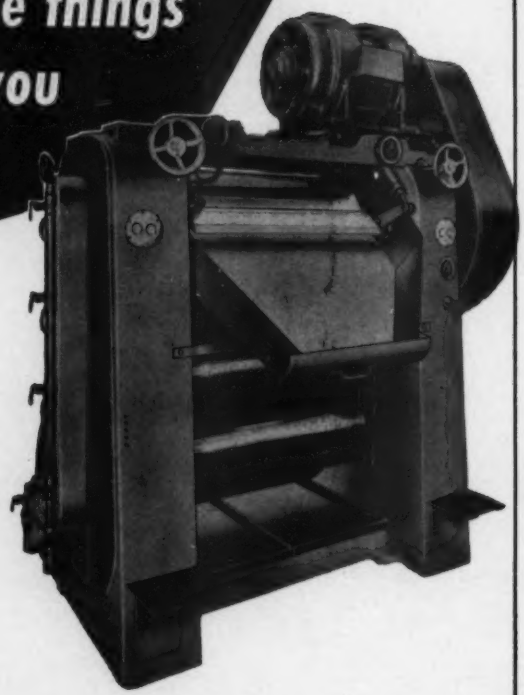
THIS MACHINE IN YOUR COMPETITOR'S PLANT

— can make things tough for you



Lehmann Model 651-CV Chocolate Refiner, with Sight-O-Matic Control

The LEHMANN 651-CV CHOCOLATE REFINER with SIGHT-O-MATIC® CONTROL definitely improves quality, increases output, and reduces costs wherever it is installed. If your competitor has this equipment, and you do not, you are, in effect, yielding him a strong competitive advantage.

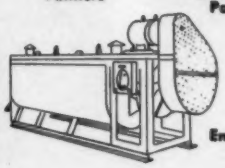
Current buyers' markets are becoming more selective every day. The manufacturer who uses less than the best production equipment can be sure of one thing—the money he "saves" by not buying modern machinery he will lose many times over in higher operating costs and reduced business.

We suggest you send for complete information regarding Lehmann Chocolate Refiners and other up-to-date chocolate processing equipment—learn what savings in time and money can be yours by installing Lehmann units in your plant to bring your operating costs down to rock bottom.

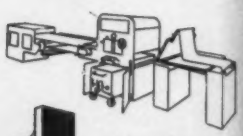
Some of the other units of Lehmann chocolate processing and confectionery equipment are:

Crackers and Fanners

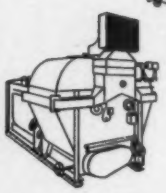
Paste Mixers



Emulsifiers

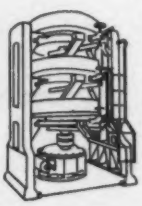


Coating Machines

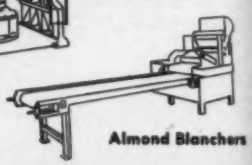


Disc Conches

Sieving and Straining Machines



Triple Mills for Liquor Reduction



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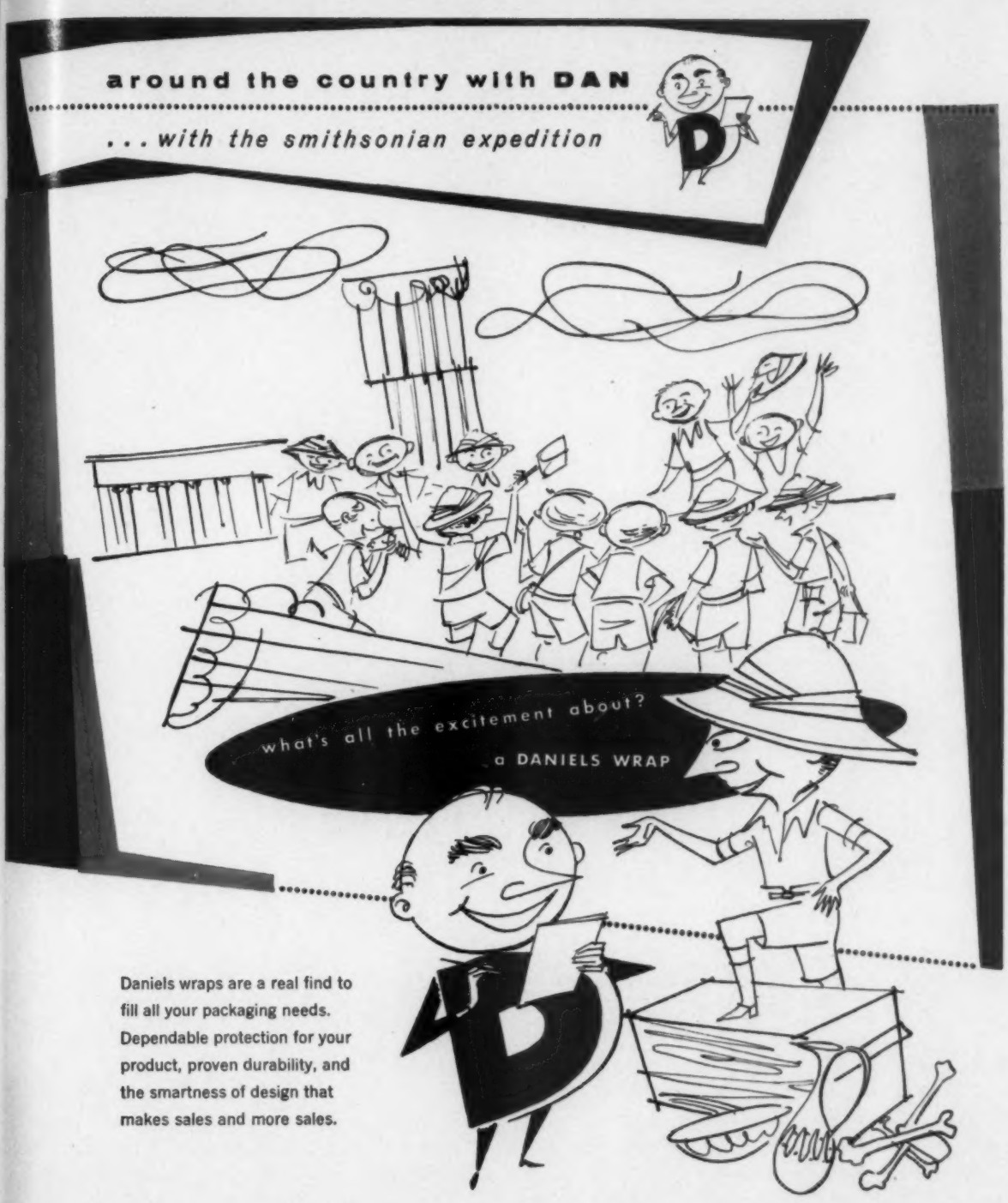

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